TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

X-RAY DIFFRACTION PATTERNS OF COTTON AT AND BETWEEN REVERSALS. H. Wakeham, T. Radhakrishnan, and G. S. Viswanathan (Ahmedabad Textile Ind. Research Assoc.). (Letter to the editor). Textile Research J. 29: 450 (May 1959). (1957)

TIME DEPENDENCE OF MECHANICAL BREAKDOWN IN BUNDLES OF FIBERS. PART 5. FIBERS OF CLASS A-2. B. D. Coleman (Mellon Inst.). J. Appl. Phys. 30: 720-724 (May 1959). (1958)

The theory of mechanical breakdown in bundles of Class A-2 fibers, whose strength depends on the speed of measurement, is used to find the conditions under which time-dependence effects can be neglected in calculations of relationships between the strength of bundles and the strength of their constituent filaments. Graph, tables, 12 refs.

THE FIBER STORY: CARPET PILE FIBERS. C. H. Masland, III (C. H. Masland & Sons). The Shuttle 26: 3-14 (Apr. 1959). (1959)

This discussion of carpet pile fibers includes terminology, methods of coloring the fiber, performance characteristics, fiber types, and a table of fiber performance characteristics in carpet.

Natural fibers A1

EFFECTS OF ROLLER GINNING AND SAW GINNING ON PIMA S-1 COTTON. J. J. Brown, N. A. Howell, and G. F. Ruppenicker, Jr. (So. Reg. Research Lab.). Textile Research J. 29: 444-449 (May 1959). (1960)

A pilot plant evaluation was made to compare the effects of roller ginning and saw ginning on the fiber, yarn, and fabric properties and processing performance of Pima S-1 cotton. Combed and carded yarns made from roller- and saw-ginned cotton and sewing thread and fabric made from combed lots of each stock were evaluated. The fabrics were compared in the gray and after finishing (singeing, mercerization, scouring, bleaching, dyeing, and Sanforize treating). It was found that, within the limits of this study, the general processing efficiency of the roller-ginned cotton was better than that of the saw-ginned cotton. Diagr, tables, 6 refs.

SELF-IGNITION TEMPERATURES OF MATERIALS FROM KINETIC-REACTION DATA. D. Gross and A. F. Robertson. J. Research Nat. Bur. Standards 61: 413-417 (Nov. 1958). (1961)

Recent analyses of self-ignition have been made under the assumption that self-heating follows a first-order reaction law. Experimental determinations of the kinetic constants of this reaction have been made for a number of materials and these constants have been used to calculate self-ignition (critical ambient) temperatures as a function of size and shape. The calculated self-ignition temperatures are in fair agreement with published experimental data for two materials, wood fiberboard and cotton linters. Photos, diagr, graphs, tables, 7 refs.

ANNUAL COTTON QUALITY SURVEY: SUMMARY OF RESULTS OF FIBER AND PROCESSING TESTS FROM SELECTED MARKET AREAS, CROP OF 1958. U. S. Agri. Mktg. Serv., Washington 25, D. C. 1959. 87 p. Agri. information bull. no. 206. Free. (1962)

COTTON: PRODUCTION AND TRADE. J. W. S. Hearle. Textile Mfr. 85: 155-160 (Apr. 1959). (1963)

The different varieties of cotton are noted, and the growing, harvesting, ginning, marketing, grading, and trading of cotton are discussed. Photos, tables.

CRIMP OF ALKALI TREATED JUTE FIBERS. M. Lewin, M. Shiloh, and J. Banbaji (Inst. Fibers & Forest Prods. Research, Israel). Textile Research J. 29: 373-385 (May 1959). (1964)

When jute fiberlike strands are treated with various concentrations of NaOH under various conditions of temperature and time, crimp is formed on some of the samples prepared. The measurements of crimp are carried out by a method developed for single fibers, and the crimp diameter, the crimp ratio, the extension, and the wave number are quantitatively determined for the various jute samples as a function of the load applied to the fiber. No crimp is formed at NaOH concentrations lower than 6%. At higher concentrations the crimp parameters increase to maximum values at 9% alkali, and thereafter decrease to constant levels. The crimp is formed after 0.5 hr of treatment. The optimum temperature for the formation of the crimp is around 2° C. With increase in temperatures the values of the crimp parameters decrease, and at 40° C no crimp is observed. Photos, diagr, graphs, tables, 12 refs.

CORRELATIONS AMONG CHEMICAL CHARACTERS OF JUTE FIBERS AND THEIR INFLUENCE ON YARN QUALITY. S. B. Bandyopadhyay and S. K. Mukhopadhyay (Indian Central Jute Comm.). J. Sci. Ind. Research (India) 18: 122-125 (Mar. 1959). (1965)

The chemical characters and yarn quality of a number of samples of olitorius and capsularis varieties of jute were statistically analyzed. It was observed that the fiber-cellulose and lignin contents of both varieties are not related to the nitrogen content of the fiber. There is a close correlation between the fat-and-wax and hemicellulose contents. The alpha-cellulose content of jute fiber appears to be the major contributing factor towards its strength, and lignin and hemicellulose contents towards the irregularity of the yarn. Tables, 8 refs.

STRESS RELAXATION AND PERMANENT SET IN KERATIN FIBERS. M. Feughelman and T. W. Mitchell (CSIRO Wool Textile Research Labs., Australia). Textile Research J. 29: 404-409 (May 1959). (1966)

It has been previously pointed out that the process of permanent set involved initially the breakdown of weak and strong polar bonds, followed by a formation of bonds with the fiber in a strained state. To further assess the rate of bond breakdown during setting, the variation of the stress in single fibers with time during setting in distilled water at various temperatures was measured. This measurement was carried out on various unmodified fibers to see the effect of diameter variation and on chemically treated fibers to gain more information relative to the bonds involved in the permanent setting process. Diagr, graphs, tables, 7 refs.

SUPERCONTRACTION OF WOOL FIBERS BY AROMATIC COMPOUNDS. W. G. Crewther (Australian Wool Research Labs.). J. Soc. Dyers Colourisrs 75: 189-194 (Apr. 1959). (1967)

The kinetics of supercontraction of wool fibers have been investigated using solutions of phenol and other aromatic compounds over a large range of concentrations and pH. The evidence shows that the phenolate ion together with its associated cation is more effective than the unionized form of phenol in causing supercontraction of wool fibers. However, the unionized form of phenol also causes contraction, and is chiefly responsible for contraction of the wool at low pH values. It is suggested that the 2 forms of phenol cause contraction of wool fibers by different mechanisms. Photomicrographs, graphs, 11 refs.

ACTION OF COPPER AMMINES ON WOOL. C. S. Whewell, J. Ashworth, V. R. Srinivassan, and A. G. P. Vassiliadis (Univ. of Leeds). Textile Research J. 29: 386-393 (May 1959). (1968)

When wool is immersed in solutions of metal ammines, metal is adsorbed and the fibers contract. There are also changes in the x-ray photographs of the fibers. Data are given for the absorption of copper from several copper ammines by untreated and chemically modified wools. The mechanism of the reactions involved is discussed. The effect of the absorbed copper on the physical properties of the fibers is also considered, special attention being given to the moisture relations and the setting characteristics of metal-containing fibers. Graphs, tables, 8 refs.

DISCOLORATION OF WOOL FIBERS BY A FUNGUS. A. P. Mulcock (Univ. of New Zealand). (Letter to the editor). Nature 183: 1281-1282 (May 2, 1959). (1969)

Report of fungus growth on New Zealand raw fleece wool which caused a black discoloration and a reduction in fiber strength.

Manmade fibers A2

HOW HEAT CHANGES FIBERS. PART 2. J. W. S. Hearle. Skinner's Silk & Rayon Record 33: 364-366 (Apr. 1959). (1970)

The second-order transition temperatures of various manmade fibers, their effects on the mechanical behavior of the fibers, and their influence on fiber processing are discussed. Photomicrographs, graphs.

THERMOPLASTIC POLYESTERS FROM BISPHENOLS. A. Conix (Gevaert Photo-Producten NV). Ind. Eng. Chem. 51: 147-150 (Feb. 1959). (1971)

Film-forming polyesters with good solubility in organic solvents, exceptionally high glass transition temperatures, and high melt viscosity are formed from bisphenols and aromatic and ethylenic dibasic acids. Graphs, tables, 10 refs.

LINEAR AROMATIC POLYESTERS OF CARBONIC ACID. H. Schnell (Farbenfabriken Bayer AG). Ind. Eng. Chem. 51: 157-160 (Feb. 1959). (1972)

High-melting, crystallizable polycarbonates are suitable for films, fibers, plastics, and coatings. Production and properties are discussed. Tables, 7 refs.

NEW SYNTHETIC FIBERS. PART 3. E. Frieser. Z. ges. Textil-Ind. 61, No. 4: 113-115 (1959). In German. Through BCIRA 39: 1443 (1959). (1973)

A description is given of a new spinning method for the production of superfine fibers (Teflon, polyalkyleneaminotriazole fiber, polyvinylidenecyanide fiber, Darvan, Verel, and Zefran fibers, new polyamide fibers, fibers from linear polyethers and from polycarbonates). Brief reference is made to the properties of the respective fibers.

MANMADE FIBERS IN THE UPHOLSTERY AND ALLIED TRADES. A. S. Howcroft (Brit. Manmade Fibers Fed.). Textile Weekly 59(1): 1037-1038, 1056 (Apr. 24, 1959). (1974)

EFFECT OF TEMPERATURE AND MOISTURE CONTENT ON ORIENTATION PRODUCED BY DRAWING NYLON 66. C. G. Cannon and F. P. Chappel. Brit. J. Appl. Phys. 10, No. 2: 68-71 (1959). Through BCIRA 39: 1445 (1959). (1975)

Increase in moisture content or ambient temperature up to about 165° C increases the maximum extension obtained by drawing nylon 66 filaments and the resulting orientation of the molecules due to their increased mobility. Above 160° C disorientation due to thermal energy offsets this, and lower birefringences were observed for a given extension.

TEFLON PROPERTIES. Man-Made Textiles 35: 56-57 (May 1959). (1976)

The unique properties of Teflon are summarized. Graph, tables.

YARN PRODUCTION B

PRODUCTION OF HIGHLY TWISTED CAPRON IN SYNTHETIC FIBER PLANTS. M. G. Chudnovskii. Tekstil. Prom. 18, No. 11: 20-22 (1958). In Russian. Through BCIRA 39: 1653 (1959). (1977)

ABRIDGED SPINNING PLAN FOR VISCOSE STAPLE FIBER. V. S. Kudryavtseva. Tekstil. Prom. 18, No. 11: 12-14 (1958). In Russian. Through BCIRA 39: 1649 (1959). (1978)

Experiments showed the possibility of processing viscose staple fiber on cotton spinning machinery according to the abridged spinning plan, and reducing the number of passages from 6 to 4 in this way. The quality of the yarn obtained satisfies the standard specification requirements.

REPORT OF DISCUSSIONS OF QUESTIONS ON OPENING, PICKING, CARDING, AND SPINNING. Textile Operating Executives of Georgia. Atlanta, Ga. 1959. 12 p. (1979)

Opening, picking, and carding: SRRL openers, machine lay-out cleaning, high compression rolls on pickers, fiber additives, card flats, fringe rolls, high speed drawing, scratch combing, and large package roving. Spinning, spooling, and warping: anti-friction bottom rolls, balloon control rings, package build-spoolers, scavenger waste control, revolving top clearer covers, maintenance-spinning, roll cleaning, high speed rings, travelers, frame cleaners, separators at spinning, cleaning top aprons, creeling spinning frames, nylon tapes, control of roll chokes, and warping.

PROCESSING OF VISCOSE/COTTON BLENDS. A. V. Teryushnov. Tekstil. Prom. 18, No. 11: 15-18 (1958). In Russian. Through BCIRA 39: 1652 (1959). (1980)

Viscose staple fiber can be processed on the carding machine with one roller in place of the flats, making it possible to reduce the amount of carding waste from 3-4% to 0.5-1%. Blending of the standard viscose staple fiber with cotton equalizes differences in fiber length and makes it possible to produce high-count yarns. Experiments showed that the weft in zephyr fabric can be advantageously replaced by this blended yarn (Nm 85).

HOW TO BLEND AT DRAWING ON THE COTTON SYSTEM. N. H. Pomfret. Textile World 109: 56-57 (May 1959). (1981)

A system for blending small or sample orders composed of different fibers at the drawframe is explained. Tables.

PREBLENDING COTTON. P. C. Grant, Jr. (Whitin Mach. Works). Whitin Rev. 26: 46-48 (Mar. 1959). (1982)

A layout of machinery for preblending large quantities of cotton stock is presented. Diagr.

EFFECTS OF DIFFERENT PROCESSING TREATMENTS GIVEN TO MA5 COTTON IN REGARD TO NEP FORMATION. R. L. N. Iyengar and C. Nanjundayya (Indian Central Cotton Comm.). Indian Textile J. 69: 212-218 (Jan. 1959). (1983)

Graph, tables, 9 refs.

QUALITY CONTROL APPROACH TO COTTON BLENDING. J. F. Hembree (Otto Goedecke, Inc.). Textile Inds. 123: 87-89 (May 1959). (1984)

The advantages of blending cotton to a specific formula following measurement of fiber properties are cited.

Carding and combing B2

FIBER MOTION ON A WOOLEN CARD. R. T. D. Richards (Wool Inds. Research Assoc.). J. Textile Inst. 50: P182-P186 (Apr. 1959). (1985)

Since the doffer and workers do not take up all the fibers presented to them by the swift, the fiber loadings on the rollers and the average time spent by a fiber in one part (the delay factor) are examined and correlated with the carding power of the machine. Graphs, 4 refs.

WHITIN SUPER LAP PREPARATION. Whitin Mach. Works. Whitin Rev. 26: 2-11 (Mar. 1959). (1986)

The new method of comber lap preparation described uses the Even-Draft drawing frame and a newly designed Super Lap machine to produce the comber laps from drawing sliver. The fundamentals of lap preparation are discussed, and the advantages of the Super Lap method as compared to the sliver lap-ribbon lap and drawing-lap winding methods are noted. Photos, diagrs, graphs, table.

PIECING ON COMBERS AND THE EFFECT OF DETACHING TIME ON SLIVER REGULARITY. M. Jordan. Rev. Textile 57, Nos. 9-10: 471-476 (1958). In French. Through BCIRA 39: 1462 (1959). (1987)

During each combing cycle, the fibers are detached and pieced up with the previously-combed fringe of cotton. These intermittent operations produce short-period irregularities. The purpose of this study is to explain the formation of these irregularities, and to ascertain the particular effect of detaching-time control.

MODERN AIR CONDITIONING. PART 1. DUST EXTRACTION DURING CARDING WITH THE MODIFIED SELROW UNIT. Textile Weekly 59(1): 967-969 (Apr. 17, 1959). (1988)

The 2-fold principle of the Selrow unit is to divert the dust laden air streams to concentrated positions on the outer surface of the card and then remove them by means of an exhaust air system. Photos.

Drawing and roving B3

THEORY OF ROLLER DRAFTING. D. Burnett (Rhodes Univ.). J. Textile Inst. 50: T297-T310 (Apr. 1959). (1989)

In this paper, it is assumed that the probability that a floating fiber has the speed of the back or front rollers is proportional to the number of contacts it has with other fibers moving with these speeds; and an integral equation is deduced for the distribution of the fibers in the sliver between the rollers. Some typical numerical results are given. The first part of the paper gives the theory for a sliver composed of fibers that are all of the same length; the second part deals with a sliver in which there is a fiber-length distribution. Tables, 2 refs.

ADVANTAGES OF MAGNETIC DRAFTING. R. Jones (Saco-Lowell Shops). Textile Bull. 85: 59-61 (Apr. 1959). (1990)

The development, design, and advantages of the MagneDraft system are described. Photos.

DRAFTING INVESTIGATIONS IN WORSTED OPEN DRAWING. A. Brearley and E. Oxtoby. Textile Recorder 77: 58-59 (May 1959). (1991)

Results of an experiment on the effects of equal, progressive, and random drafting in worsted drawing on the Bradford system indicate that there is little difference in the resultant yarn quality. Graph, tables, 4 refs.

Spinning, winding, twisting B4

THE TROUBLE-SHOOTER AT WORK: UNEVEN TENSION IN SPINNING IS CAUSED BY SEPARATORS. Textile World 109: 54 (May 1959). (1992)

DEVELOPMENT OF CAN SPINNING FOR DRY STAPLE FIBERS. K. Bettermann. Reyon Zellwolle Chemiefasern No. 1: 44-50; No. 2: 103-105 (1959). In German. Through BCIRA 39: 1466 (1959). (1993)

In this review, the author discusses the development of the centrifuge spindles (mechanically and electrically driven spinning centrifuges) and technological problems associated with their use (choice of spindle, possibilities of yarn removal from the spinning can, starting-up the spinning process and piecing of broken ends, and economical aspects). 19 refs.

PRACTICAL QUALITY CONTROL IN WORSTED SPINNING. H. Krakowian (Le Peigné, Belgium). J. Textile Inst. 50: P187-P192 (Apr. 1959). (1994)

Methods for the control of wool fiber fineness, sliver and yarn uniformity, count, and tensile strength are outlined. Tables, 4 refs.

SPINNING FRAME PREVENTIVE MAINTENANCE. Indian Head Mills. Textile World 109: 64 (May 1959). (1995)

The maintenance reports used to control spinning frame maintenance are briefly described.

FUNDAMENTALS OF SPINNING RING DEVELOPMENT. PART 3. FUNDAMENTALS OF RING DESIGN. P. F. Grishin. Whitin Rev. 26: 25-41 (Mar. 1959). (1996)

Part 3 discusses the solution of the problem of avoiding excessive yarn tension caused by an improper relationship between the ring and traveler proportions, and the best traveler design for spinning when using the standard ring. Diagrs, graphs, 3 refs.

RING SPINNING FRAME FOR LONG FIBERS. J. & T. Boyd Ltd. Textile Recorder 77: 78 (May 1959). (1997)

The new ring spinning frame for worsted (either oiled or dry), synthetic fibers and blends provides a ratch setting range between 3-1/2 in. and 11 in. Tin rollers or driving cylinders have been eliminated, and the machine has no tapes or drafting aprons. Details of the machine are noted. Photos.

REGULATION OF THE MEAN CROSS-SECTION OF ROVINGS IN SPINNING. J. Hattel. Industrie Textile: 31-32 (Jan. 1959). In French. Through BCIRA 39: 1470 (1959). (1998)

The device described measures the cross-section variations of the thread, and translates these variations into tension variations, proportional to volume variations of the roving in successive equal-length portions. It is also able to integrate these volume variations so as to cause the tension resulting from each integration to act on the machine drive and, consequently, to alter the speed of the machine as required.

AUTOMATIC DOFFING MACHINE. Deering Milliken Research Corp. Textile Bull. 85: 62 (Apr. 1959). (1999)

The automatic doffer reduces the downtime of the spinning frame to about 15% of that required for conventional hand doffing, resulting in an 85% savings in downtime. The machine lifts full bobbins from an entire frame in one gentle motion. The same machine, previously loaded with empty bobbins, then drops these into place. Photo.

WHITIN KRYTON SPINNING RING. Whitin Mach. Works. Whitin Rev. 26: 12-14 (Mar. 1959). (2000)

Factors leading to the development of the Kryton ring are discussed. Photo.

TWIST IRREGULARITY IN RAYON YARN. A. G. Balashova. Tekstil. Prom. 18, No. 11: 52-53 (1958). In Russian. Through BCIRA 39: 1650 (1959). (2001)

Factors responsible for twist irregularities in rayon yarn are reviewed and directions are given for their elimination.

BALLOON CONTROL RINGS FOR WOOL SPINNING FRAMES. Whitin Mach. Works. Whitin Rev. 26: 23-24 (Mar. 1959). (2002)

The Whitin balloon control ring system consists of a single split ring equal in diameter to the spinning ring. The rings are mounted on a rail behind the spindles, and can be wound down by a hand crank to the ring rail, so that they are completely out of the doffers way. Photos.

REDUCED SPINDLE OILING COST. L. E. Hart. Textile World 109: 63 (May 1959). (2003)

By transferring spindle oiling duties to spinning frame scourers, a cotton mill was able to reduce direct labor cost and improve its yarn quality and production.

COMPARATIVE TESTS ON THE WOOL RING SPINNING MACHINE. W. Frenzel and J. Schreiter. Faserforsch. u. Textiltech. 9, No. 12: 537-542 (1958). In German. Through BCIRA 39: 1468 (1959). (2004)

Comparative spinning tests and experiments with normal ring spindles and balloonless spindles (German Patent 826 853) are described. The thread tension in the yarn formed behind the delivery roller is, in the case of balloonless spindles, about one-quarter of the spinning tension at the normal spindle so that practically no yarn breakages occur. The winding-on tension and, consequently, the thickness of the yarn package can be determined in the case of balloonless spindles by the choice of suitable travelers. The experimental yarns produced showed greater regularity and a lower mean breaking elongation.

Yarns B5

USE OF SYNTHETIC FIBERS IN TWISTED MATERIALS. V. A. Zabelin and T. M. Zhbratova. Tekstil. Prom. 18, No. 11: 18-20 (1958). In Russian. Through BCIRA 39: 1654 (1959). (2005)

Reference is made in particular to the use of polyamide and polyester fibers in the manufacture of ropes and cables and to optimum technological conditions.

CAPTIVE LOOP BULKING. Man-Made Textiles 35: 48-49 (May 1959). (2006)

The evolution of looping methods for the direct production of bulk yarns without heat treatment and increase of extensibility is described with pertinent patent references.

BEHAVIOR OF TEXTILES IN COLD. PART 3. CHANGES IN STRENGTH AND ELASTIC PROPERTIES OF COTTON YARNS, PERLON CORD YARN, AND COTTON INTERLININGS FOR RUBBER CONVEYORS AT LOW TEMPERATURES. H. Sommer and R. Barth. Faserforsch. u. Textiltech. 10, No. 1: 8-21 (1959). In German. Summary in BCIRA 39: 1558 (1959). (2007)

NO. 7 "THICK AND THIN" RAYON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. May 1959. 2 p. Bull. R-37 (replaces Bull. R-32). Free. (2008)

Characteristics, uses, and processing conditions are presented.

NO. 60 "THICK AND THIN" RAYON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. May 1959. 2 p. Bull. R-36 (replaces Bull. R-30). Free. (2009)

Characteristics, uses, and processing conditions are presented.

SEGREGATION OF COMPONENT FIBERS IN BLENDED YARNS. A. Barella. Reply: J. E. Ford. (Letters to the editor). J. Textile Inst. 50: T335-T336 (Apr. 1959). (2010)

TEXTURED YARNS OF CHEMSTRAND NYLON. Chemstrand Corp., Pensacola, Florida. May 1959. 33 p. Bull. no. 2.11. Free. (2011)

This survey of textured yarns and their processing and uses includes Agilon, Fluflon, Helanca, Saaba, Spunized, Superloft, Taslan, Textralized, Ban-Lon, and Tycora. Fabric swatches.

SIX-FOLD THREADS. A. L. Feigenberg. Tekstil. Prom. 18, No. 11: 45-46 (1958). In Russian. Through BCIRA 39: 1655 (1959). (2012)

The author describes a method in which, after a preliminary twisting and 3-fold doubling, the product is finally twisted and cabled 2-fold. By this method, the theoretical productivity of twisting spindles can be increased by 22.5%, and the number of twisting spindles reduced by 50%. The physicochemical properties of the yarn produced in this manner are not impaired, but its behavior during sewing and in the seams remains to be investigated.

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

YARN TENSION CONTROL IN WINDING. D. Brunnschweiler. Textile Recorder 77: 60-62, 75 (May 1959). (2013)

Basic factors determining the tension of yarn ballooning during unwinding from supply packages, with particular reference to cop built ring tubes, are discussed in this article. Photos, diagrs, graphs, 2 refs.

WINDING WITH YARN TENSION CONTROLLED HEADS. H. Schrader. Skinner's Silk & Rayon Record 33: 460, 462-463 (May 1959). (2014)

The yarn tension controlled EKS winding heads (Barmer Maschinenfabrik AG) employ the principle of the sliding rotor motor. Their design and range of applications are described. Photos, diagrs, graphs.

HIGH SPEED ROTARY TRAVERSE CONE AND CHEESE WINDER. Thomas Holt Ltd. Textile Recorder 77: 79 (May 1959). (2015)

Features of the RTM winder include an adjustable supply package rail and a balloon breaker to permit higher winding speeds. Photo.

NONCONGEALING STARCH SIZES. A. E. Staley Mfg. Co. Textile Bull. 85: 69-70 (Apr. 1959). (2016)

Miralloid and Mira-Film are acetate derivatives of starch designed for use with synthetic, fine combed cotton, worsted, and worsted/synthetic warp yarns. Their characteristics and preparation are described.

SLASHER SIZING DACRON YARNS. H. L. Sandine and L. M. Anderson (E. I. du Pont de Nemours & Co.). Modern Textiles Mag. 40: 26-28 (May 1959). (2017)

Summary of current practices and recommendations for mill practice. Photos, diagr, tables.

NEW SIZING MATERIALS FOR SYNTHETIC FIBER YARNS. Man-Made Textiles 35: 52, 54 (May 1959). (2018)

The limitations of conventional rayon sizes (such as gelatin wax, gelatin/glycerin combinations and those based on starch, and the methyl and ethyl celluloses and carboxymethylcellulose) and sizes based on casein, polyvinyl alcohol, and polyacrylic acid for other manmade fibers are noted, and the advantages of polyalkyl esters of acrylic and methacrylic acids are cited.

Weaving C2

CRABTREE NEEDLE AXMINSTER LOOM. David Crabtree & Son Ltd. Textile Recorder 77: 76-77, 81 (May 1959). Man-Made Textiles 35: 50-51 (May 1959). Skinner's Silk & Rayon Record 33: 519, 521 (May 1959). (2019)

The needle Axminster loom is essentially a cut pile machine. In principle, its operation resembles needle tufting in that the pile yarn is inserted into a prewoven jute or hessian backing, but on the Crabtree machine, each individual tuft is secured by a cotton locking thread which passes through the loop of the tuft beneath the carpet. As a result of this method of securing the tufts, no latex backing is required. Its mechanical principles are described in detail. Photos, diagrs.

NONSTOP SHUTTLE CHANGING LOOM. Tsudakoma Industrial Co. Ltd. Textile Recorder 77: 80-81 (May 1959). (2020)

Mechanical and operational features of the LMD 2 x 1 box loom are described. Photos.

HYDRAULIC SHAFT CONTROL. J. Martinek. Spinner u. Weber 77, No. 2: 83 (1959). In German. Through BCIRA 39: 1483 (1959). (2021)

The use of a hydraulic shaft control in weaving, in place of the usual mechanical means, is suggested.

WARP BEAM BRAKES AND REGULATORS. B. Hesse. Spinner u. Weber 77, No. 2: 84-85. (1959). In German. Through BCIRA 39: 1485 (1959). (2022)

Various types of brakes (rope brakes, shoe brakes, chain brakes, band brakes, friction block brakes) and warp beam regulators (negative and positive) are reviewed.

HOW TO MAKE FANCY TERRY. PART 2. T. Hargreaves. Textile Inds. 123: 84-86 (May 1959). (2023)

Factors to be considered in selecting looms for weaving overall jacquard effects in either two tone reversibles or in sculptured designs are discussed. Photos.

LOOMFIXER AND HIS JOB. PART 5. W. Westbrook. Textile Bull. 85: 66, 68-69 (Apr. 1959). (2024)

Pointers are given on the installation, alignment, and meshing of gears. Photo, diagr.

WEAVING WIRE ON THE SULZER. Warner & Swasey Co. Skinner's Silk & Rayon Record 33: 458-459 (May 1959). (2025)

The features and operation of the Warner & Swasey-Sulzer wire weaving machine are described. Photos, diagrs.

SPANISH SHUTTLELESS LOOM. Skinner's Silk & Rayon Record 33: 352 (Apr. 1959). (2026)

Features of the Ballbé SND 6 loom are described. Photo.

LOOMFIXER-SUPPLY SYSTEM. Joanna Cotton Mills. Textile World 109: 55 (May 1959). (2027)

The inventory of supplies kept in workbenches for each section of looms is listed. Photos.

PICKING MECHANISM CONSTRUCTION. W. Lichtenheldt. Faserforsch. u. Textiltech. 10, No. 1: 2-7 (1959). In German. Through BCIRA 39: 1484 (1959). (2028)

The driving problems associated with the picking motion are discussed, with reference to the use of link-gears and curved drives. For guiding the picker, special construction tables are recommended.

QUICKLY FIND WARP YARN TAKEUP. S. D. George. Textile Inds. 123: 135-136 (May 1959). (2029)

A nomogram is given for computing the percent takeup in a warp yarn during weaving.

AIRBORNE SOILING MATTER IN WEAVING-SHED ATMOSPHERES. D. N. E. Cooper (Courtaulds Ltd). J. Textile Inst. 50: P193-P199 (Apr. 1959). (2030)

The occurrence of soiling matter in the general atmosphere, the relationship between internal and external air dirtiness, and the ways in which dirt may be transferred from air to fabric during weaving are discussed on the basis of mill experience. Tables, 4 refs.

Knitting C3

PATTERNING WITH POINTS IN FULLY-FASHIONED KNITTING. J. B. Lancashire. Hosiery Trade J. 66: 90-91, 107 (May 1959). (2031)

The scope of designs possible with the use of the lacing point is described and illustrated. Photos, diagrs.

BASIC SETTINGS FOR FF HOSIERY MACHINES. W. D. Frye. Textile Inds. 123: 163-164 (May 1959). (2032)

The importance of basic settings is stressed, and the procedure for proper press setting is described and illustrated. Photos.

FLEXIBLE PATTERN DRUM FOR SCP AND SCOP HOSIERY MACHINES. W. Shewmake. Textile Inds. 123: 161, 164 (May 1959). (2033)

The pattern setting operation is described. Photos.

Fabrics C4

NEW APPLICATIONS OF THE GAUZE WEAVE. J. Vallois. Industrie Textile: 43-49 (Jan. 1959). In French. Through BCIRA 39: 1487 (1959). (2034)

A sack fabric in gauze weave, the device, and a mechanism permitting variations in the weave are described.

SHAPED FABRICS. P. Duval. Industrie Textile: 37-39 (Jan. 1959). In French. Through BCIRA 39: 1488 (1959). (2035)

Two methods of producing shaped fabrics ready for making up garments (e.g. skirts with shirred elastic waist band or fashioned at the waist) are described.

KNITTED BANDAGES. J. Riethmüller. Skinner's Silk & Rayon Record 33: 449, 451 (May 1959). (2036)

German experiments on the possibilities of making warp knit bandages on F. N. F. high speed machines from Colvadur (viscose) staple yarns are described. Photos.

FLUORESCENT BRIGHTENING AGENTS IN SURGICAL DRESSINGS. K. R. Capper. Reply: D. A. W. Adams. (Letters to the editor). J. Soc. Dyers Colourists 75: 195 (Apr. 1959). (2037)

The reasons for prohibiting the use of fluorescent agents in surgical dressings are cited.

WOVEN FABRIC STRUCTURE: DESIGNING IN END-AND-END PLAIN. D. C. Snowden. Man-Made Textiles 35: 55 (May 1959). (2038)

DESIGN IN WOVEN STRUCTURE. PART 75. BEDFORD CORD STRUCTURES. D. C. Snowden. Wool Rev. 32: 31-32 (May 1959). (2039)

INDUSTRIAL GLASS FABRICS. Flightex Fabrics Inc. Textile World 109: 62-63, 170, 74-75 (May 1959). (2040)

Throwing and weaving, p. 62-63, 170; Finishing, p. 74-75. Photos.

TERYLENE IN LINED FIRE HOSE. N. B. Furvik and U. Boman (Jonsereds Fabriker AB). Textile Mfr. 85: 190-191 (Apr. 1959). (2041)

The properties of Terylene fire hose lined with polyvinyl chloride are described.

RAYON WEAVING PROBLEMS. G. Turton. Textile Mfr. 85: 176-182 (Apr. 1959). (2042)

Sources of defects in winding and weaving and their elimination are discussed. Photos, diagrs, graphs.

NATURAL AND SYNTHETIC POLYMERS IN CONVEYOR BELTING. W. Bowden and A. J. Wilson. Proc. Instn Rubber Inds. 5: 129-139 (1958). Through BCIRA 39: 1489 (1959). (2043)

The polymers used in conveyor belting are considered under two headings: carcass polymers such as cotton, rayon, nylon, and Terylene; cover polymers such as natural rubber, polyvinyl chloride, and Neoprene. The specific properties of these polymers which make them suitable materials for belt construction are discussed.

1959 ANNUAL REVIEW OF TUFTED TEXTILES. Textile Inds. 123: 94-130 (May 1959). (2044)

Tufted "sheepskins," p. 92-93; Dyeing twist-set nylon, by F. H. Cooper, p. 96-98; Tufted carpet finishing, p. 99-99C; British developments, by P. Abbenheim, p. 99D-107, 128-130; Cobble single end scroll pattern attachment, by J. O. Erwin and W. Hammel, Jr., p. 109, 124-128; Retailing tufted carpets, by L. Meltz, p. 111-123.

MALIMO FABRICS. Skinner's Silk & Rayon Record 33: 346, 348, 350 (Apr. 1959). (2045)

Malimo fabric consists of a layer of weft threads and a layer of warp threads joined together by means of zig-zag chain stitches. The operation and features of the Malimo sewing machine used for its manufacture are described. Photos, diagrs, 2 refs.

CLOTH GEOMETRY AND ITS USES. D. C. Snowden (Leeds Univ.). Textile Merc. 140: 551-554 (Apr. 24, 1959). (2046)

The features and limitations of cloth setting theories, together with some methods of setting for various simple weaves, are discussed. Photomicrographs, 15 refs.

LABELING AND QUALITY OF TEXTILES. M. Ringeissen. Teintex 25, No. 2: 87-95 (1959). In French. Through BCIRA 39: 1711 (1959). (2047)

The necessity of giving to the consumer some indication as to the quality of various textiles (e.g. the Felisol label) and instructions as to their maintenance (washing, bleaching, drycleaning, ironing, etc.) is discussed, with reference to some symbols used on labels in Holland and France.

SOME FACTS ABOUT CARPET FIBERS. W. Reynolds. Modern Textiles Mag. 40: 47-48 (May 1959). (2048)

Brief discussion of the fibers used and their distribution in carpet manufacture in 1958.

RESULTS OF EXPOSURE TRIALS ON NYLON AND POLYESTER FIBER WEBBINGS. Brit. Nylon Spinners Ltd. Nov. 1958. 6 p. Advance report no. 11. (2049)

Undyed nylon degraded more rapidly than undyed polyester fiber when subjected to out-of-doors exposure. Despite this, nylon webbings can still give better performance in service because of: (1) the higher initial strength of nylon webbing and (2) the better energy absorption capacity of nylon webbing.

NARROW FABRIC CHECKLIST PREVENTS SIX MAJOR DEFECTS. J. Whitfield. Textile World 109: 60, 166 (May 1959). (2050)

The checklist covers causes and prevention of streaks, uneven widths, shires and stop-start marks, dirt, filling breaks and runouts, and creases or tangles.

RUBBER LATEX AND CARPETS. PART 2. FOAM INTEGRATION BY A CONTINUOUS PROCESS. S. B. Cant (Lintafoam Ltd). Textile Merc. 140: 555-556 (Apr. 24, 1959). (2051)

WHAT CONSUMERS WANT IN MANMADE FIBER CARPETS. T. W. Bresnahan. Modern Textiles Mag. 40: 45-47 (May 1959). (2052)

FINISHING AND CHEMICAL PROCESSING D

DYEING AND FINISHING BLENDS OF DACRON POLYESTER FIBERS AND CELLULOSE FIBERS. J. J. Iannarone, Jr., R. J. Thomas, and C. W. Holweger, Jr. (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 48: 41-45 (May 4, 1959). (2053)

The technology for dyeing Dacron type 54 polyester fiber in blends with cotton and with rayon, and for dyeing Dacron type 64 in blends with rayon is presented. The selection of dyes for use on these blends is emphasized. In addition finishing techniques are reviewed. Tables.

THE THIRTEEN KEYS: HINTS ON STUDYING THE HISTORY OF DYEING AND BLEACHING. S. M. Edelstein (Dexter Chem. Corp.). Am. Dyestuff Reptr. 48: 35-40 (May 4, 1959). (2054)

The main story of the development of dyeing and bleaching from the earliest times down to the middle of the last century can be traced by the study of a relatively small number of original key works. A bibliographical description of these 13 key books is given. Photos.

PREPARATION AND BLEACHING. PART 2. HOW FIBER STRUCTURE AFFECTS COTTON PROCESSING. K. S. Campbell (N. C. State Coll. School of Textiles). Textile World 109: 83, 85 (May 1959). (2055)

The details of cotton fiber structure and the effects of this structure on the penetration of chemicals and dyes into the fiber are discussed.

Chemical processes D1

SOME OBSERVATIONS REGARDING THE CHLORINE RETENTION OF FABRICS TREATED WITH DIMETHYLOL ETHYLENEUREA. A. R. Smith (B. I. P. Chemicals Ltd). Am. Dyestuff Reptr. 48: 49-53, 58 (Apr. 20, 1959). (2056)

The objects of this study were to investigate the factors responsible for the deficiencies of some finishes based on DMEU and to establish if possible the conditions required for satisfactory performance as regards chlorine retention. Graphs, tables, 4 refs.

TRIAZONE COMPOUNDS IN CREASEPROOFING. J. T. Marsh. Textile Mfr. 85: 187-189 (Apr. 1959). (2057)

The chemistry of the triazones is described, and their advantages and disadvantages in creaseproofing are discussed.

DESIGNING A FABRIC FOR WASH-AND-WEAR. S. M. Cone, Jr. (Cone Mills Corp.). Textile Inds. 123: 151-152, 158 (May 1959). (2058)

A suggested procedure for coordinating consumer requirements with resin finishing and fabric construction is outlined on the basis of mill experience.

CREASEPROOFING VISCOSE SPUN RAYON FABRIC. T. N. Arkhinova, A. S. Kryukova, S. L. Sibirtsev, and L. V. Lerzhova. Tekstil. Prom. 18, No. 11: 27-30 (1958). In Russian. Through BCIRA 39: 1685 (1959). (2059)

Carbamol (a urea formaldehyde product) and Metazine (a methyl ester of penta- and hexamelamine) are recommended for crease and shrinkproofing of regenerated cellulose and cotton fabrics. Carbamol, available in the form of a 30-35% white or slightly yellow paste, can be combined with other finishing agents, e.g. softeners. Addition of Metazine (a colorless or slightly yellow mass or viscous syrup-like liquid) intensifies the finishing effect and increases the elasticity of the fabric. Suitable compositions are given and the finishing process is described.

DURABLE PLEATING AND CREASING OF ALL-WOOL APPAREL WITH SI-RO-SET SOLUTION. Wool Bureau, Inc., 360 Lexington Ave., New York 17, N.Y. 1959. 8 p. Wool science & technology report no. 4. Free. (2060)

This report describes practical processes for setting durable creases or pleats in wool garments and fabrics. The processes involve spraying the completely or partially made up garments with dilute Si-Ro-Set Concentrate, setting the sprayed material with steam in an ordinary press or autoclave, etc., and drying. At present, the processes can only be applied by garment manufacturers or pleaters to obtain durable creases or pleats in wool.

ANTISTATIC ASSISTANTS IN THE TEXTILE INDUSTRY. A. E. Henshall. Textil-Rundschau 14, No. 1: 28-31 (1959). In German. Through BCIRA 39: 1459 (1959). (2061)

Prevention of electrostatic charges by (1) maintaining high air humidity, (2) the use of external conductors, (3) ionization of the surrounding air (radioactive materials or electrical ionization devices), and (4) the use of antistatic agents is discussed. Some suitable antistatic agent compositions for nylon and Terylene, acetate rayon, viscose rayon yarns and fabrics, and continuous filaments are given, and reference is also made to the application of antistatic agents.

POLYVINYL ACETATE EMULSIONS IN TEXTILE FINISHING. A. C. Kennett and P. C. Edbrooke. Textile Mfr. 85: 171-173 (Apr. 1959). (2062)

Methods of application of polyvinyl acetate finishes are described, and data on stiffness, wash resistance, abrasion resistance, and soiling are included. Tables.

STUDIES OF THE MOVEMENT OF WOOL FIBERS IN FABRICS DURING FELTING, WITH PARTICULAR REFERENCE TO THE PERMANENCY OF PLEATS. PART 1. LIGHT FELTING AND ITS EFFECT ON PLEATS IN A WORSTED FABRIC. K. R. Makinson (CSIRO Wool Research Labs., Australia). Textile Research J. 29: 431-439 (May 1959). (2063)

Pleats in a worsted fabric which were fast to relaxation in hot water were readily destroyed by light hand washing. This has been shown to be due to small movements of the fibers, of the order of 0.5-1.0 mm. These movements are the initial stage of felting. They destroy the pleats by blurring the position of the region of maximum set and by imposing temporary opposing sets on the fibers. The shape of the fibers has been studied, and their radius of curvature and two other parameters have been measured. Fibers from unpleated regions of the fabric undergo similar movements and deformations on washing, but their overall shape is unchanged, since it is determined by the geometry of the fabric. Photomicrographs, diagrs, table, 11 refs.

STUDIES OF THE MOVEMENT OF WOOL FIBERS IN FABRICS DURING FELTING, WITH PARTICULAR REFERENCE TO THE PERMANENCY OF PLEATS. PART 2. HEAVIER FELTING IN A WORSTED FABRIC. K. R. Makinson (CSIRO Wool Research Labs., Australia). Textile Research J. 29: 439-443 (May 1959). (2064)

The configurations of the wool fibers in a worsted fabric have been studied at various stages of washing. Before there is any perceptible felting, small movements of portions of some fibers towards their root ends occur. These movements continue on further washing until loops are formed over some parts of the fibers while other parts are taut. At this stage felting and shrinkage become perceptible. At a later stage of felting, entanglement of the loops occurs. The observed behavior of the fibers agrees well with that to be expected if Shorter's theory of felting is correct; there is no indication that the mechanism suggested by Martin plays any important part in the felting of this particular fabric. Diagrs, 10 refs.

WASHFAST CHARACTERISTICS OF RESIN FINISHES ON COTTON AND RAYON GOODS. J. A. Somers. Textile Recorder 77: 63-65 (May 1959). (2065)

From the results of a study on the washfastness and wet soiling properties of resin finished fabrics, it is concluded that in the washing and laundering of resin finished cotton and rayon fabrics, loss of resin to an appreciable degree will only occur if the liquor has too low a pH, while wet soiling will take place only if thermoplastic ingredients are present with the ordinary resin. Graphs, tables.

CATALYTIC REACTIONS IN FINISHING, WITH SPECIAL REFERENCE TO SILICONES. G. Hauschild. Z. ges. Textil-Ind. 61, No. 4: 122-128 (1959). In German. Through BCIRA 39: 1529 (1959). (2066)

The most important reactions taking place during chemical finishing of textiles are reviewed, and the importance of catalytic acceleration of the reactions is pointed out, with special reference to the catalysts used and their respective activities. The possible occurrence of side-reactions and of secondary effects associated with the use of complex finishing agents is also discussed. 18 refs.

ANTISTATIC FINISHES FOR ACRILAN FABRICS. Chemstrand Corp., Decatur, Ala. Oct. 1958. 5 p. Bull. no. DF11. Free. (2067)

PREPARING COTTONS FOR RESIN FINISHING. S. M. Cone, Jr. (Cone Mills). Textile Bull. 85: 70, 72-74 (Apr. 1959). (2068)

Methods for reducing loss of tear and tensile strength in cotton fabrics due to resin finishing are discussed.

CHLORINE UPTAKE OF RESIN FINISHED COTTON FABRICS. W. Schefer. Textil-Rundschau 14, No. 1: 17-25 (1959). In German. Through BCIRA 39: 1565 (1959). (2069)

In supplementation of a previous article (2549/58) discussing the effect of hypochlorite treatments on the chlorine uptake of resin finished fabrics, the author shows that, with progressive removal of the resin during successive launderings, the chlorine uptake of resin treated fabrics decreases. The greater the chlorine uptake, the higher is the fiber tendering during heating of the chlorine-containing cloth, but some exceptions to this rule have recently been found. Chlorine contents higher than 0.3% (based on the conditioned fabric) always present a latent risk; no tendering is to be expected at chlorine contents below 0.03%, even under unfavorable heating conditions.

CHEMICAL TREATMENTS OF COTTON TUBULAR KNITGOODS. H. B. Goldstein (Sun Chem. Corp.). Am. Dyestuff Reptr. 48: 45-48 (Apr. 20, 1959). (2070)

This paper describes the various factors which must be considered to obtain optimum finishing effects on cotton knitgoods, and includes discussion of the preparation of the fabric prior to finishing, the choice of the chemical treatments, and the operation of the special finishing equipment for handling fabrics in double thickness.

FINISHER AND TEXTILES. C. E. Coke. Can. Textile J. 76: 60-62 (May 1, 1959). (2071)

The role of the finisher in modifying the properties of textiles by means of mechanical and chemical methods is reviewed. 5 refs.

CORROSION INHIBITOR FOR CHLORITE BLEACHING. Teintex 24, No. 2: 120-123 (1959). In French. Through BCIRA 39: 1669 (1959). (2072)

The new inhibitor, Omnifos N 1100, is a colorless, slightly oily liquid soluble in water and giving weakly acid solutions. It is claimed to protect stainless steel in both the liquid and gaseous phase of chlorite bleaching, to decrease the liberation of chlorine dioxide in the bleaching bath, to reduce the bleaching time, and to give a better whiteness at the same consumption of chlorite as in the absence of the inhibitor.

CHEMICAL REACTIONS OF FIBROUS CELLULOSE. G. E. Goheen. Tappi 41, No. 12: 737-742 (1958). Through BCIRA 39: 1526 (1959). (2073)

In this review the author discusses how cotton cellulose may be modified by esterification, etherification, replacement of hydroxyl groups, and oxidation with inorganic reagents. 41 refs.

USE OF POLYETHYLENE EMULSIONS IN TEXTILE APPLICATIONS. R. Rosenbaum (Allied Chem. Corp.). Am. Dyestuff Reptr. 48: 46-49 (May 18, 1959). (2074)

Polyethylene can be emulsified in nonionic, cationic, or anionic systems which are compatible with most common textile finishing agents. This polymer increases tear strength of unblended natural and manmade fabrics. The flex abrasion and tear strength of blended fabrics were improved. In conjunction with thermosetting resins, the polyethylene gives higher crease-resistance improvement over that imparted by the resin alone, and minimized reduction in tear strength and flex abrasion. A properly formulated emulsion is nonyellowing, scorch-resistant, and will impart improved hand. The polyethylene remains in the fabric even after 20 launderings. Tables.

PARTIAL ACETYLATION OF COTTON: COST ANALYSIS APPLICATION. K. M. Decossas and others. Ind. Eng. Chem. 51: 615-618 (May 1959). (2075)

This cost analysis shows that costs for partially acetylating cotton vary considerably with variations in annual production and method of processing. Unit manufacturing costs are estimated to be as low as 14.2 cents per pound of product. Graphs, tables, 11 refs.

YARN DAMAGE IN COTTON PROCESSING. N. Bigler. SVF Fachorgan Textilveredlung 14, No. 2: 81-84 (1959). In German. Through BCIRA 39: 1704 (1959). (2076)

A batch of dark-dyed mercerized cotton yarn showed matt places which were at first attributed to nonuniform mercerization. Microscopic examination, however, showed no differences in the degree of mercerization between the defective and normal sections. By making impressions according to the gelatin method, a thick deposit of calcium soap was detected which caused the defect in the yarn and originated from a thin film of calcium soap formed on the surface of the wash liquor.

REACTION MECHANISM OF TITANIUM DIOXIDE ACTING AS CATALYST IN THE LIGHT TENDERING OF CELLULOSE. J. Schurz and E. Kienzl. Faserforsch. u. Textiltech. 9, No. 12: 513-519 (1958). In German. Through BCIRA 39: 1550 (1959). (2077)

The photocatalytic effect of titanium dioxide on cellulose degradation and the possible reaction mechanism are briefly discussed, and experiments are described in which photo-oxidation by titanium dioxide was measured as a function of wavelength. Oxidation of disaccharides by titanium dioxide, and some preliminary experiments concerning photo-oxidation of cellulose are also described. 22 refs.

CHAINLESS MERCERIZING MACHINE. S. Kosche. Z. ges. Textil-Ind. 61, No. 4: 129-132 (1959). In German. Through BCIRA 39: 1516 (1959). (2078)

The mechanism and constructional details of the Kleinewefers mercerizing machine are described.

PARTIALLY ACETYLATED (PA) COTTON. E. V. Anderson and A. S. Cooper, Jr. Ind. Eng. Chem. 51: 608-614 (May 1959). (2079)

A review. Photos, diagrs, 18 refs.

MODERN WASHING AND RINSING MACHINES FOR TREATING PIECE GOODS. G. Dierkes. Spinner u. Weber 77, No. 3: 145-146, 148, 152-154 (1959). In German. Through BCIRA 39: 1496 (1959). (2080)

Rope-washing and -rinsing machines (Rope-o-Matic, Niagara, Multiflex, etc.) and open-width washing and rinsing machines (Econom, Pulsotex, Cascade, Turbotex, Brugman, etc.) are described and illustrated.

Dyeing and printing D2

DYEING BEHAVIOR OF FELTMAKING FIBERS. V. D. Freedland (Brit. Hat & Allied Feltmakers' Research Assoc.). Dyer 121: 775-776 (May 8, 1959). (2081)

Investigations on comparative dyeing properties of fibers used in felt hat manufacture are surveyed. 7 refs.

DYEING OF SYNTHETIC FIBERS. D. A. Garrett (Imp. Chem. Inds.). Research 12: 179-182 (May 1959). (2082)

Brief discussion of ionic and disperse dyestuffs on manmade fibers. Graphs, tables, 13 refs.

PRINCIPLES OF PIGMENT PADDING. R. Kern (Sandoz Ltd). Dyer 121: 699 (Apr. 24, 1959). (2083)

The problems connected with the dyeing of cellulosic fibers with vat dyestuffs, and the advantages and problems raised by applying vats in pigment form are discussed briefly.

UPGRADING OF TEXTILES THROUGH RESEARCH. C. H. A. Schmitt (Sandoz, Inc.). Can. Textile J. 76: 51-57 (May 15, 1959). (2084)

A review of some of the more recent developments in new dyestuffs and auxiliaries, dye application, and finishing techniques. Photos, 3 refs.

RECENT ADVANCES IN THE DYEING OF ACRILAN ACRYLIC FIBER. E. V. Burnthall (Chemstrand Corp.). Am. Dyestuff Reptr. 48: 41-45 (May 18, 1959). (2085)

Dyeing methods recommended for Acrilan are controlled in the main by the anionic dye receptor contained in the fiber. The dyeing of Acrilan with basic dyes is pH dependent. Although ammonium acetate has given good results in the past as a dyeing assistant, it has been found that urea gives much improved results. Through the use of urea, by far the largest majority of basic dyes available on the market give improved color build-up and dye at a controlled rate. Urea is also very effective as a print paste additive. Graphs, tables, 5 refs.

PACKAGE DYEING BLENDED YARNS OF 80% ZEFRAN AND 20% COTTON OR RAYON. R. L. Burgess (Dow Chem. Co.). Am. Dyestuff Reptr. 48: 35-37 (May 18, 1959). (2086)

Formulas and methods of dyeing Zefran/cellulose blends with vat, naphthol, and sulfur dyes are given. Tables.

EFFECT OF SOAPING ON COTTON DYEINGS WITH THIOINDIGOID DYES. L. M. Golomb and M. G. Pomanova. Tekstil. Prom. 18, No. 11: 30-33 (1958). In Russian. Through BCIRA 39: 1673 (1959) (2087)

Spectrophotometric studies on cotton fabrics dyed with thioindigoid dyes showed that soaping of the fabric leads to condensation of the dye and to simultaneous orientation of the particles in the direction of the fiber axis. Study of the effect of fabric steaming and simultaneous soaping leads to the conclusion that, by means of a suitable simple reconstruction of the soaping vats, it would be possible to improve the dyeing effect without reducing the velocity of fabric passage.

PRINTING WITH PIGMENTS. A. Permut. Textile Inds. 123: 137-143 (May 1959). (2088)

The reasons for the use of pigments versus dyes in printing and of water-in-oil versus oil-in-water emulsions are reviewed. Photos, diagrs.

PRINTING OF RUBBERIZED CLOTH. Industrie Textile: 61-63 (Jan. 1959). In French. Through BCIRA 39: 1515 (1959). (2089)

Reference is made in particular to block and screen printing of rubberized cotton fabrics and the machinery involved.

PRINTING OF COTTON AND SPUN RAYON FABRICS WITH PIGMENTS OF THE HELIZARIN-TYPE. A. S. Stepanov, A. I. Bat'kov, and E. Z Boltareva. Tekstil. Prom. 18, No. 11: 37-39 (1958). In Russian. Through BCIRA 39: 1681 (1959). (2090)

The properties of Helizarin-type pigment dyes and their uses, especially in direct printing and in resist printing under aniline black, are discussed.

CONTINUOUS DYEING UNDER PRESSURE. R. Kern and M. Capponi. Textil-Rundschau 14, No. 1: 25-28 (1959). In German. Through BCIRA 39: 1505 (1959). (2091)

Reference is made to a pad-steam installation, and a detailed description is given of the fully continuous ribbon-dyeing installation and the laboratory high-pressure steamer (LD 25 model), both developed by the Konrad Peter AG.

OPEN-WIDTH DYEING MACHINES. PART 3. W. T. Swatek. Z. ges. Textil-Ind. 61, No. 4: 132-136 (1959). In German. Through BCIRA 39: 1506 (1959). (2092)

The author describes the construction of some modern pad dyeing machines, such as the Econom (Konrad Peter AG), the Fibe machine (Benninger AG), the Vits padder (Vits-Elektro GmbH), and the Benteler 2-, 3-, and multi-roller padders.

CELLULOSE SUBSTANTIVITY. W. L. Lead. (Letter to the editor). J. Soc. Dyers Colourists 75: 195-196 (Apr. 1959). (2093)

A discussion of van der Waals forces and the use of affinity measurements for the purpose of correlating substantivity and constitution.

INSTALLATION FOR NAPHTHOL DYEING OF COTTON AND SPUN RAYON FABRICS. N. V. Korol'kov. Tekstil. Prom. 18, No. 11: 33-34 (1958). In Russian. Through BCIRA 39: 1674 (1959). (2094)

DYEING WITH DIRECT DYES BY THE PAD-ROLL PROCESS. G. Sellier. Teintex 24, No. 2: 81-84 (1959). In French. Through BCIRA 39: 1672 (1959). (2095)

The method described combines a continuous phase (padding) with a semicontinuous phase which consists essentially in fixing the dye on the fiber by a thermal treatment. The equipment used in this process is the Swedish pad-roll installation covered by BP 704 972. When using direct dyes, the pad-roll process makes it possible to obtain dyeings (especially dark shades) with good wetfastness. As compared with the pad-steam steam method, the pad-roll process requires less space and can be used in small-piece dyeing.

EFFECT OF A SURFACE BARRIER ON UPTAKE RATES OF DYE INTO WOOL FIBERS. J. A. Medley and M. W. Andrews (CSIRO Wool Textile Research Labs., Australia). Textile Research J. 29: 398-403 (May 1959). (2096)

It is shown that any surface barrier to the entry of a dye into a fiber must modify the form of the uptake - time relation, the barrier exerting its greatest influence in the early stages of sorption, but becoming progressively less important as sorption proceeds. The analysis, which takes account of variable diffusion characteristics of fibers forming the assembly, is applied to the uptake of Naphthalene Orange G by wool, and a small but definite effect is found, which could for instance be attributed to the epicuticle. Diagr, graphs, 13 refs.

DYEING OF KNITTED GOODS WITH THE AID OF ULTRASONIC VIBRATION. L. B. Kotlyarskii. Legkaya Prom. 18, No. 11: 31-33 (1958). Through BCIRA 39: 1504 (1959). (2097)

When the dye is only slowly soluble, ultrasonic vibration with appropriate wetting agents effects dispersion in 20 min or less.

PHYSICAL AND KINETIC CONSIDERATIONS ON THE CARRIER EFFECT IN DYEING. H. Zukriegel and F. Eichler. SVF Fachorgan Textilveredlung 14, No. 2: 58-60 (1959). In German. Through BCIRA 39: 1671 (1959). (2098)

Phenomena observed during carrier dyeing are briefly reviewed, and it is concluded that the function of a carrier depends essentially upon the degree of distribution and the osmotic pressure, the affinity of the dye for the dyed material, the temperature, the fiber swellability, and other factors playing an important but secondary role.

EMULSION THICKENINGS IN TEXTILE PRINTING APPLICATIONS. T. L. Dawson (Imp. Chem. Inds. Ltd). Dyer 121: 625-626 (Apr. 10, 1959). (2099)

The advantages of using emulsion thickenings are discussed, and oil-in-water emulsion thickenings for use with various dyestuff classes are described.

CONSTITUTION AND PROPERTIES OF DISPERSE DYES. J. M. Straley and D. G. Carmichael. Can. Textile J. 76: 49-59 (May 1, 1959). (2100)

Some of the factors influencing the shade and other properties of disperse dyes are explained, and the properties of a number of these dyes used currently in the dyehouse are evaluated on the fibers on which they find the greatest use. Tables, 8 refs.

THE BASIC CHEMISTRY OF DYES AND DYEING. PART 3. W. Postman (Ga. Inst. Technol.). Textile World 109: 97, 99 (May 1959). (2101)

The structure and application of mordant dyes are described.

PROPOSED TERMINOLOGY REFERRING TO DYES. Danish Comm. for Textile Terminology. Tidsskr. Textiltek. 17 No. 1: 12-13 (1959). In Danish. Through BCIRA 39: 1085 (1959). (2102)

This is the 12th of provisional proposals containing Danish, Norwegian, Swedish, French, English and German terms referring to various groups of dyes. Definitions of the dyes are also given.

REACTIVE DYESTUFFS. E. L. Caswell (Ciba Co.). Am. Dyestuff Reptr. 48: 39-40, 50 (May 18, 1959). (2103)

Methods used for the application of reactive dyes to cellulose, wool, cotton/Dacron, Acrilan, Ban-Lon, and nylon are reviewed.

AUTOMATIC SCREEN PRINTERS. Dyer 121: 657, 659-660 (Apr. 10, 1959). (2104)

This review of automatic screen printing machines includes mention of the Reisinger, Buser, Stork, Reggiani, Automat, and Ichinose machines. Photos.

Mechanical processes D3

IMPROVED PLEATING OF THERMOPLASTIC FABRICS. A. Hegarty. Textile Recorder 77: 66-67 (May 1959). (2105)

The causes of fabric plane distortions in pleated fabrics made of manmade fibers and their elimination by the Chempleat process are discussed. Other advantages of the process are noted. Photos.

THE CHEMPLEAT PROCESS: A NEW CONCEPT IN PLEATING THERMOPLASTIC FABRICS. Chemstrand Corp., 350 Fifth Ave., N. Y. May 1959. 9 p. Apparel processing bull. no. 4. Free. (2106)

Details of the ChemPleat process are described and illustrated. In the ChemPleat process the fabric is subjected to greater control and is dampened for additional relaxation.

SOME POINTS IN CLOTH RAISING. A. J. Bennett. Textile J. Australia 34: 74-76 (Mar. 20, 1959). (2107)

The primary objects of wet and dry napping and pointers for eliminating defects arising from the operations are briefly noted.

APPARENT SLIP BETWEEN METAL AND RUBBER-COVERED PRESSURE ROLLERS. G. J. Parish. Brit. J. Appl. Phys. 9, No. 11: 428-433 (1958). Through BCIRA 39: 1527 (1959). (2108)

Measurements are reported which indicate that in a roller system consisting of a metal and a rubber-covered roller rotating in contact under load, the metal roller always has the higher apparent peripheral speed, whether it is driving or is driven by the rubber roller. This behavior is attributed to extension of the rubber surface in the region of the nip, the extension being due in part to the contact pressure and in part to the presence of shear strains consequent on the transmission of torque through the nip. The theoretical distribution of surface strain in the rubber due to the contact pressure is derived, and the theoretical results are found to be in fair agreement with the experimental. Some further experiments designed to measure the rubber extension are described.

PROCESSING FOR DIMENSIONAL STABILITY: MECHANICAL METHODS OF INHIBITING SHRINKAGE. Man-Made Textiles 35: 59-60, 62 (May 1959). (2109)

Shrinkage control by means of controlled relaxation on the tenter and by compressive shrinkage are described. Details of the Rigmel and Sanforizing processes of compressive shrinkage are emphasized. Diagrs.

Drying, setting, conditioning D4

THERMAL TREATMENT OF FABRICS. A. G. Antropov. Tekstil. Prom. 18, No. 10: 39-40 (1958). In Russian. Through BCIRA 39: 1332 (1959). (2110)

Two experimental machines, ATO-110 (for cotton and spun rayon fabrics) and ATO-164-Sh (for wool), developed in 1956 by the Ivanovo Textile Machinery plant (Ivtekmash) for the thermal treatment of fabrics, with a view to imparting to them water-, crease-, and shrink-resistance, were extensively tested under plant conditions and, after minor constructional alterations, found suitable for large-scale production.

SETTING TEXTURED NYLON SWEATERS. Color-Knit Dyeing Corp. Textile Inds. 123: 168-169 (May 1959). (2111)

The procedures used for the relaxation and setting of nylon sweaters and the problems encountered are discussed. Photos.

EARLY DEVELOPMENT OF MODIFIED CONTINUOUS-FILAMENT YARNS. K. Tanemura. Reply: D. F. Arthur. (Letters to the editor). J. Textile Inst. 50: P200-P201 (Apr. 1959). (2112)

The use of pressure steam for setting Lanayon viscose rayon crimped yarn by the Toyo Rayon Co. is described.

IMPROVEMENT IN THE EFFICIENCY OF DRYING TEXTILES. L. Walter. Industrie Textile: 64-66 (Jan. 1959). In French. Through BCIRA 39: 1538 (1959). (2113)

Various modifications of existing dryers to improve drying yield are described and illustrated.

HANK DRYING MACHINE. Fleissner Ltd. Textile Merc. 140: 494-495 (Apr. 10, 1959). (2114)

The main feature of the dryer is the chainless conveyor system used for rotating the hanks during their passage through the drying zone. Diagr.

STEAM-SETTING BULKED YARN GOODS. Sanderson & Co. Man-Made Textiles 35: 68-69 (May 1959). (2115)

The operation of the BW2D machine, which operates on a repeating vacuum/steaming cycle, is described.

TESTING AND MEASUREMENT E

RAPID STATISTICAL TECHNIQUES FOR OPERATIONAL RESEARCH WORKERS. W. E. Duckworth and J. K. Wyatt. Operat. Research Quart. 9, No. 3: 218-233 (1958). Through BCIRA 39: 1606 (1959). (2116)

This paper describes quick tests for the population mean, the comparison of two population means, and for the existence of trends, association, and other non-randomness. A rapid method for analysis of variance is also described. Ways of predicting the number of trials required in certain circumstances are given.

Fibers E1

SILVER STAINING METHOD FOR CROSS SECTIONS OF REGENERATED CELLULOSE FIBERS. K. Kato (Toyo Rayon Co. Ltd). Textile Research J. 29: 409-415 (May 1959). (2117)

A staining technique is discussed which has been presented as an alternate method for differentiating the skin-core effect of viscose rayons. This technique, using silver nitrate solution, furnishes good results, generally corresponding to those obtained by the usual methods employing normal dyes. The staining, however, proceeds in a quite different manner from these dye methods, thus suggesting a different mechanism. Several cellulosic rayons have been examined and a number of factors have been evaluated regarding their influences upon the silver staining. The staining in question is chemical, immediately associated with the accessible reducing end groups in cellulose; therefore it is possibly a measure of the degree of accessibility of regenerated cellulose fibers. Photomicrographs, table, 11 refs.

MECHANICAL THICKNESS MEASURING DEVICE FOR SINGLE FIBER TESTS. W. Bobeth and L. Vollrath. Faserforsch. u. Textiltech. 9, No. 12: 543-550 (1958). In German. Through BCIRA 39: 1545 (1959). (2118)

The tester can be successfully used for measuring the thickness of single fibers with circular cross-section, for comparing the plastic or elastic deformability of various fibers, for determining the effect of various fixing procedures on the compressibility of Perlon monofilaments, for measuring the "true" thread tension (combined thickness and fiber elongation measurement), etc. Details of the apparatus and the method are described, and some preliminary experimental results are reported.

POLYVINYL CHLORIDE FIBERS, THEIR EXAMINATION, COMPOSITION, AND QUANTITATIVE DETERMINATION IN THE PRESENCE OF OTHER FIBERS. E. Frieser. Textil-Rundschau 14, No. 1: 1-16 (1959). In German. Through BCIRA 39: 1551 (1959). (2119)

Qualitative and quantitative analytical methods for determining the composition of and for differentiating polyvinyl chloride fibers are described in detail, with special reference to the quantitative separation of polyvinyl chloride fibers from other textile fibers. The respective methods of analysis are described and their accuracy is ascertained on specially prepared blends. 18 refs.

DETERMINATION OF WOOL FINENESS BY LANAMETER TYPE 2-12-1/b. J. Horváth (Hungarian Textile Research Inst.). Periodica Polytechnica (Eng.) 3, No. 1: 115-116 (1959). In English. (2120)

The Lanameter (Metrimpex, Budapest) is a projection microscope with built-in frequency recording equipment. The instrument and its use for determining wool fiber fineness are described.

INFLUENCE OF HIGH ENERGY RADIATION ON COTTON. PART 3. THIOBARBITURIC ACID TEST FOR DEGRADATION. H.-P. Pan, B. E. Proctor, and S. A. Goldblith (Mass. Inst. Technol.). Textile Research J. 29: 425-430 (May 1959). (2121)

Cotton that had been irradiated with cathode rays was found to form color compounds with 2-thiobarbituric acid in acidic solutions, and a procedure for determining the chemical damage of the irradiated cotton was developed. The color of the test solution is stable and the test is reproducible. Microbiologically deteriorated cotton is also sensitive to this test. The possibility of using this test for the rapid determination of chemical damage to raw cotton and other substances that contain cellulose as the major constituent is suggested. Graphs, tables, 16 refs.

Yarns E2

DETERMINATION OF THE DENSITY OF RAYON YARN PACKAGES. N. A. Novikov and L. S. Romanova. Tekstil. Prom. 18, No. 11: 49-51 (1958). In Russian. Through BCIRA 39: 1705 (1959). (2122)

Determination of the density of rayon yarn on 10 bobbins by means of tables and nomograms is shown to require only one-third of the time for the use of the formula for a truncated cone and only slightly more time than the use of the densitometer PN-2, the accuracy ranging from 1.54-2.8%.

MATHEMATICAL ANALYSIS OF COLLECTIVE YARN STRENGTH TESTING. S. Nosek. Faserforsch. u. Textiltech. 9, No. 12: 551-557 (1958). In German. Through BCIRA 39: 1557 (1959). (2123)

It is shown that, of the two methods of bundle-strength testing, namely, testing without firm clamping of the threads (bundle test) and with firmly clamped threads (harp test), the latter gives more accurate results. Formulas for the bundle strength are derived by means of 2-dimensional correlation.

DEVICE FOR MEASURING SLIVER IRREGULARITY. V. M. Kan. Tekstil. Prom. 18, No. 11: 36 (1958). In Russian. Through BCIRA 39: 1701 (1959). (2124)

The apparatus described makes it possible to measure sliver irregularity almost 4 times faster than on other devices, without affecting the technological properties of the sliver, which can then be used for further processing.

SIMPLIFIED TWIST DETERMINATION FOR YARNS FROM CONTINUOUS FILAMENTS. P. Dubach. Reyon Zellwolle Chemiefasern No. 1: 43-44 (1959). In German. Through BCIRA 39: 1556 (1959). (2125)

A method and twist counter are described, by means of which it is possible to determine rapidly and accurately the twist and its variations for variable test length. Advantages of the method are enumerated.

MEASUREMENT OF THE TEMPERATURE OF A RUNNING THREAD-LINE. M. F. Culpin and D. M. Jones (Brit. Nylon Spinners Ltd). J. Sci. Instr. 36: 28-29 (Jan. 1959). (2126)

Instruments are described which may be used to measure the temperature of a running textile thread-line. They entail the elimination of the difference in temperature between the thread-line and an independently heated thermocouple. Diagrs.

Fabrics E3

OPTICAL WRINKLEMETER. R. S. Hunter and C. A. Lofland (Hunter Associates Lab.). Am. Dyestuff Reptr. 48: 54-58 (Apr. 20, 1959). (2127)

This paper describes an optical wrinklemeter built by the Hunter Associates Laboratory for the Clothing and Housing Research Division of the U. S. Agricultural Research Service. It is designed to measure degree of wrinkling by an optical technique involving light reflection. Photo, diagrs, graphs.

LAUNDRY ACCELEROTOR COMPARABLE TO COMMERCIAL LAUNDRY. R. E. Weisheit and R. W. Padgett. J. Home Econ. 51: 368-369 (May 1959). (2128)

Test results and the analysis of variance showed that 10 min in the Accelerotor at 2500 rpm using 100 mm of a 0.2% neutral soap solution heated to 160° F and 2 mm of a liquid bleach containing 5.25% available chlorine was comparable to 100 commercial launderings. Photo, tables, 4 refs.

PSYCHOLOGICAL PROBLEMS IN INSPECTION. W. P. Colquhoun (Applied Psychology Research Unit, Cambridge). Man-Made Textiles 35: 42-47 (May 1959). (2129)

Since the crux of the inspection problem is the enormous variability that is found both between different inspectors on one occasion, and within the same inspector on different occasions, it is possible only to assign a certain probability to a particular response, given certain conditions. The most important of these conditions are discussed in this paper. 15 refs.

Other E4

DETERMINATION OF THE DEGREE OF OXIDATION IN CELLULOSE. J. Schurz and E. Kienzl. Reyon Zellwolle Chemiefasern No. 1: 38-43 (1959). In German. Through BCIRA 39: 1549 (1959). (2130)

The iodate method for wet combustion of cellulose is used to determine an oxidation number O as a gross measure of cellulose oxidation. The celluloses tested are graded according to their O-values.

EVALUATING THE EFFECTIVENESS OF FLUORESCENT WHITENERS AND OXIDIZING BLEACHES ON COTTON. PART 1. UNSOILED SWATCHES WASHED IN LAUNDER-OMETER. PART 2. NATURALLY SOILED PILLOWCASES WASHED AND DRIED IN HOUSEHOLD EQUIPMENT. M. S. Furry, P. L. Bensing, and J. L. Kirkley (Agri. Research Serv.), Part 1, p. 59-67; M. S. Furry, P. L. Bensing, R. K. Taube, N. D. Poole, and E. S. Ross (Agri. Research Serv.), Part 2, p. 67-73. Am. Dyestuff Reptr. 48: 59-73 (Apr. 20, 1959). (2131)

Using reflectometers, the fluorescent and nonfluorescent whitening effects of laundering repeatedly with different fluorescent whiteners and peroxygen- and chlorine-containing bleaches were measured in a bleached cotton percale sheeting. Results were found to conform well with visual ratings of whiteness. The extent of chemical and physical damage produced in the fabric by the various washing solutions was also determined. Graphs, tables, 24 refs.

METHODS FOR ANALYSIS OF FLUORESCENT BRIGHTENERS. L. E. Weeks, J. C. Harris, and J. T. Lewis (Monsanto Chem. Co.). Soap Chem. Specialties 35: 66-70, 277 (May 1959). (2132)

Methods for determining the relative purity of brighteners and how they might be characterized generally in detergent compositions are discussed. Graphs, tables, 6 refs.

QUALITATIVE CHROMATOGRAPHIC METHOD FOR IDENTIFYING MILDEW INHIBITORS ON MILITARY FABRICS. T. D. Miles and A. C. Delasanta (Quartermaster Research & Eng. Command). Am. Dyestuff Reptr. 48: 31-32 (Apr. 6, 1959). (2133)

This paper presents a qualitative method using paper chromatography which can be used to identify copper-8-quinolinolate, salicylanilide, 2,2'methylene - bis - (4-chlorophenol), and zinc salts of dithiocarbamic acid. The method is rapid and requires no specialized laboratory equipment. Table, 10 refs.

MILL MANAGEMENT F

TRAINING METHOD FOR MENDER-BURLERS. Brit. Wool Employers Council. Textile World 109: 51, 173 (May 1959). (2134)

The BWEC program, which is outlined, achieves complete training in 12 weeks as compared to 2 years for the government program and 5 years for the apprenticeship training.

PRODUCTION PLANNING FOR DELIVERY DATES. K. Mamnicki. Hosiery Trade J. 66: 68-70 (May 1959). (2135)

The data needed in planning production in a knitting mill are noted, and their application illustrated. Tables.

MANUAL CHARTS SUPERVISOR'S COURSE. Am. Thread Co. Textile Inds. 123: 79-83 (May 1959). (2136)

Examples of the responsibilities and duties covered by the manual are listed and discussed. Graph, chart.

Industrial engineering F1

LINEAR PROGRAMMING: APPLICATION IN AN INDIAN TEXTILE MILL. G. Morton. Operat. Research Quart. 9, No. 3: 198-206 (1958). Through BCIRA 39: 1612 (1959). (2137)

This paper describes the application of linear programming to production planning in the weaving section of a large Indian spinning, weaving, and printing mill.

PROPOSAL FOR A YARN QUALITY CONTROL IN THE SPINNING MILL. C.-H. Schäfer. Spinner u. Weber 77, No. 2: 77-80 (1959). In German. Through BCIRA 39: 1611 (1959). (2138)

A proposal is made to base the yarn quality control on a quality number K, which is to consist of 7 different quality factors expressing, respectively, count variations, regularity variations per 100 m, deviations from the theoretical strength, tearing strength variations, excess twist (above theoretical), yarn irregularity on short lengths, and appearance of the yarn.

SOME ASPECTS OF QUALITY CONTROL IN COTTON TEXTILES. G. Newbery (Productivity Center, The Cotton Board, Manchester). Appl. Statistics 8: 1-12 (Mar. 1959). (2139)

The author shows how the problems of developing methods suitable for factory use, and of instructing factory staff in these methods, have been tackled in the British cotton industry.

MULTI-MACHINE ASSIGNMENTS. PART 1. HOW TO CUT MACHINE INTERFERENCE. T. F. O'Connor. Modern Textiles Mag. 40: 34, 36 (May 1959). (2140)

Factors affecting interference in semi-automatic multiple machine assignments are discussed.

Plant and equipment F2

PROCESS CONTROL HELPS STEAM ECONOMY. L. Walter. Dyer 121: 813-814 (May 8, 1959). (2141)

The prominent part which instrumentation plays in fuel and heat economy during generation and use of heat for processing and the factors to be considered in performing a plant survey for improved instrumentation are discussed. Diagr.

PRODUCTIVE MAINTENANCE RESULTS IN MAXIMUM OUTPUT. C. E. Sutton. Textile Bull. 85: 75-77 (Apr. 1959). (2142)

This article gives the steps in a productive maintenance program and lists commonly given reasons why maintenance programs have not been put into effect.

SCIENCES G

Chemistry G1

ACRYLONITRILE IN THE TEXTILE INDUSTRY. J. H. MacGregor (Courtaulds Ltd). J. Soc. Dyers Colourists 75: 181-189 (Apr. 1959). (2143)

The rapid development of acrylonitrile as an industrial organic chemical during the past 20 years is reviewed and noted. Its reactivity with materials, such as cellulose, starch, wool, etc., which play a dominant role in the textile industry is discussed. The properties of the products obtained in these cyanoethylation reactions are considered, and some possible industrial applications of the products suggested. Finally a number of worthwhile uses of polyacrylonitrile and of copolymers containing acrylonitrile and other vinyl monomers are noted, with special reference to their outstanding value in the production of the fully synthetic acrylic fibers. The properties of these fibers are commented on, and their value in certain applications is postulated. Brief mention is made also of the processing and dyeing of yarns and fabrics made from these fibers. 13 refs.

DESIGN GUIDE FOR BETTER DETERGENTS FOR COTTON. R. D. Stayner (Oronite Chem. Co.). Soap Chem. Specialties 35: 64-65, 264-265 (May 1959). (2144)

The requirements of a cotton detergent for maximum cleaning effectiveness are discussed under the headings: wetting power, hydrocarbon chain length, zeta potential, and the role of polyphosphates. Diagrs.

DEGREE OF POLYMERIZATION AND ITS DISTRIBUTION IN CELLULOSE RAYONS. PART 8. THE INFLUENCE OF DEGREE OF POLYMERIZATION AND MOLECULAR ORIENTATION ON THE MECHANICAL PROPERTIES OF MOLECULARLY-HOMOGENEOUS MONOFILAMENTS. R. J. E. Cumberbirch and W. G. Harland (Shirley Inst.). J. Textile Inst. 50: T311-T334 (Apr. 1959). (2145)

As part of a general study of the relation between fiber structure and properties, molecularly-homogeneous fractions of secondary cellulose acetate (DP 100 - 800) were spun by a wet-spinning technique into monofilaments; the filaments were stretched to produce different degrees of orientation, and then saponified to cellulose filaments. The molecular orientations and load-extension characteristics of these and of some of the original cellulose acetate filaments were measured. By taking into account molecular orientation, it is shown that DP is a much more important factor influencing the properties of rayons than previous published work with films has suggested. Diagrs, graphs, tables, 26 refs.

ACCESSIBILITY OF VARIOUS CELLULOSE PREPARATIONS FROM JUTE. D. K. R. Choudhury (Indian Central Jute Comm.). Textile Research J. 29: 394-397 (May 1959). (2146)

The accessible portions in various cellulose preparations from jute were determined by the method of acid hydrolysis. Changes in degree of polymerization were found from viscosity measurements in cuprammonium hydroxide solution of the cellulose before and after hydrolysis at different intervals of time. The results of the findings show the effect of hemicellulose present in cellulose preparations from jute on the accessibility and leveling-off DP and hence on the crystallite length due to different treatments on jute cellulose. Graphs, table, 23 refs.

INFRARED SPECTRA OF α-CELLULOSE. B. I. Stepanov, R. G. Zhbankov, A. I. Skrygan, and A. M. Shyshko. Vestsi Akad. Navuk Belarus. S. S. S. R., Ser. Fiz.-Tekh. Navuk No. 4: 105-113 (1957). Through Chem. Abstr. 53, No. 5: 4726 (1959). (2147)

α-Cellulose obtained from cotton etc. with 17.5% sodium hydroxide is not identical with the original material; it is free from CH_2 groups. Structural changes occur in the original material at a 12% NaOH concentration and are a maximum of 17.5%. Presumably NaOH and native cellulose form chemical groups of the type of alcoholates; practically all the OH groups of the native cellulose undergo reaction.

Physics G2

SOME RESULTS OBTAINED WITH THE I. S. C. C. COLOR APTITUDE TEST. J. M. Adams. J. Oil Col. Chem. Ass. 41, No. 11: 807-813 (1958). Through BCIRA 39: 1756 (1959). (2148)

The results of 200 tests carried out with the color aptitude test are discussed.

INFLUENCE OF HIGH ENERGY RADIATION ON COTTON. PART 1. PROPERTIES OF RAW COTTON SLIVER LAP, YARN, AND FABRIC IRRADIATED UNDER VARIOUS CONDITIONS. H.-P. Pan, B. E. Proctor, S. A. Goldblith, H. M. Morgan, and R. Z. Naar (Mass. Inst. Technol.). Textile Research J. 29: 415-421 (May 1959). (2149)

Sliver lap, yarn, and fabric made of the same raw cotton of known composition were irradiated with cathode rays under various conditions. Changes in the chemical and physical properties were investigated. Some yarns also were irradiated with gamma rays. The changes that occurred in these samples were found to be the same as those in samples irradiated with cathode rays. Data for the copper number, the methylene blue number, and the intrinsic viscosity indicated that degradation of the cathode ray irradiated yarn had taken place. A new absorption maximum was found in infrared spectrograms of the cotton irradiated at high dose levels. Direct-dye affinity of the irradiated fabric was similar to oxycellulose. The tensile strength of the yarn decreased with the amount of dose it received. However, at low levels the tensile strength was found to increase to a maximum before it started to decrease; a "natural curve" of tensile strength and a "natural curve" of toughness were defined. Microbiological tests showed that both yarn and fabric were sterilized by a dose of one megarep. A general increase in mildew resistance was noted in irradiated samples compared with unirradiated samples. Graph, tables, 22 refs.

INFLUENCE OF HIGH ENERGY RADIATION ON COTTON. PART 2. EFFECTS ON CHEMICAL MODIFICATION. H.-P. Pan, B. E. Proctor, S. A. Goldblith, H. M. Morgan, and R. Z. Naar (Mass. Inst. Technol.). Textile Research J. 29: 422-425 (May 1959). (2150)

Mercerized cotton yarn and partially acetylated cotton yarn were irradiated with cathode rays. Mercerized yarn and partially acetylated yarns were also prepared from cathode ray irradiated cotton yarn. The copper number, the intrinsic viscosity, and the tensile strength of these samples were investigated. The results and the behavior patterns of these values were similar to those of the raw cotton yarn from which these chemically modified samples were prepared. The copper number increases with the dose levels of irradiation; the values of intrinsic viscosity decrease with the dose levels. The tensile strength increases slightly with dose levels up to 0.1 megarep and then decreases rapidly. A marked increase was noted in the tensile strength of the yarn that was irradiated at 0.1 megarep and then partially acetylated. The acetyl values of the irradiated acetylated samples were practically constant. However, at dose levels of 10 megarep and above, sharp increases in the apparent values were noted. Tables, 6 refs.

REVIEW ON THE FACTORS INFLUENCING THE FRICTION OF FIBERS, YARNS, AND FABRICS. C. Rubenstein (Shirley Inst.). Wear 2: 296-310 (May 1959). (2151)

Diagr, 68 refs.

CENTRAL NOTATIONS FOR COLOR-NAME BLOCKS. Am. Dyestuff Reptr. 48: 38 (May 18, 1959). (2152)

In a color-measurement study by the National Bureau of Standards, central notations were determined for the ISCC-NBS color-name blocks. These blocks are defined as segments of a solid figure, each segment encompassing the range of color acceptable under one color name. Fitted together, the segments comprise the psychological color solid that scientists use to explain gradations in color perceived by the human eye. The method used in determining the notations is explained. Diagr., 3 refs.

MISCELLANY H

PROBLEMS OF PRODUCTIVITY IN THE COTTON TEXTILE INDUSTRY. A. Ormerod (Ashton Bros. & Co. Ltd). Textile Merc. 140: 583-584, 587-589 (May 1, 1959); 613-615, 622 (May 8, 1959). (2153)

In part 1 the causes of the postwar contraction trend in productivity in the United Kingdom are examined. Part 2 discusses horizontal industry organization and diversity of output.

CIBA'S 75 YEARS: 1884-1959. Ciba Rev. 11: 1-40 (Apr. 1959). (2154)

This special issue, marking the 75th anniversary of Ciba Ltd (1884-1959), reviews the history of Ciba with special reference to the impact of advances in science and technology on its growth. Photos, photomicrographs.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

DRYER AND FEED CONTROL FOR COTTON GINNING EQUIPMENT. F. E. Deems and A. L. Smith (to Continental Gin Co.). USP 2 883 709, Apr. 28, 1959. (2155)

RETTING PROCESS FOR FLAX FIBERS. F. Smith, E. D. Besser, and R. E. Montonna (to Univ. of Minn.). USP 2 883 826, Apr. 28, 1959. (2156)

The flax fibers after mechanical breaking are soaked in an aqueous treating bath containing an alkaline metal hydrosulfite for the complete removal of the lignin and partial removal of the gums.

Manmade fibers A2

CELLULOSE ACETATE FIBERS DYEABLE WITH METALLIZABLE DYES. J. M. Straley and R. C. Harris (to Eastman Kodak Co.). USP 2 882 176, Apr. 14, 1959. (2157)

The addition of nickel carbonate to cellulose acetate prior to its being spun into a fiber produces fibers which can be dyed with metallized dyes.

YARN PRODUCTION B

PRODUCTION OF POLYAMIDE SLIVERS. Vereinigte Glanzstoff Fabriken AG. BP 809 478, Feb. 25, 1959. Through BCIRA 39: 1636 (1959). (2158)

For the conversion of a tow of continuous polyamide filaments into staple fiber by the ratching process, the present invention specifies the minimum content (2%) of lower polymers soluble in water, and claims a dressing treatment with a soluble salt of a polystyrene derivative and other softeners as the means for overcoming sudden and irregular breakage. The tow is incompletely stretched so that the elongation at break is still at least 60%, dressed, dried, opened, and fed to the conventional breaking rollers.

YARN LIQUID PROCESSING REEL WITH INTERDRUM BAFFLE. T. S. Matter (to Am. Viscose Corp.). USP 2 880 602, Apr. 7, 1959. (2159)

MACHINE FOR CUTTING AND WINDING COTTON BATTING FOR THE MANUFACTURE OF PADS. Hytakos AG. BP 809 471, Feb. 25, 1959. Summary in BCIRA 39: 1656 (1959). (2160)

PRODUCTION OF TORQUE YARNS. Moulinage et Retorderie de Chavanoz. BP 809 479, Feb. 25, 1959. Through BCIRA 39: 1659 (1959). (2161)

A polyamide yarn is run through a curved metal tube, heated electrically and only 3-5 mm in internal diameter. The tube may be mounted inside a larger tube packed with vermiculite. The yarn is thereby heated by contact with the tube. A false-twisting process follows.

FALSE-TWISTING MECHANISM. E. P. R. Scragg (to E. Scragg & Sons Ltd). BP 809 606, Feb. 25, 1959. Through BCIRA 39: 1660 (1959). (2162)

The invention relates to false-twisting mechanism for producing a crimped, balanced torque yarn, that is, a yarn free from residual torque when the temporary twist is removed. It comprises a twist tube mounted between two driving belts and means for bringing the tube into contact with one or other belt alternately, so that the tube rotates alternately in opposite directions.

PROCESS FOR YARN CRIMPING. J. Billion (to Billion & Cie). USP 2 881 504, Apr. 14, 1959. (2163)

A helical profile is imparted to yarn by winding it about a support and fixing the deformation produced by the winding by means of heat.

THREAD ADVANCING DEVICE FOR CONTINUOUS YARN PROCESSING. G. Severini (Italy). USP 2 883 259, Apr. 21, 1959. (2164)

The device is suitable for use in chemical, thermal, and mechanical processing and causes the yarn to travel along a spiral path so that a relatively small space is required for treatment.

SPINNABLE FIBERS TREATED WITH COLLOIDAL SILICA. J. J. Healy, Jr. (to Monsanto Chem. Co.). USP 2 885 308, May 5, 1959. (2165)

Reduced fiber slippage and increased tensile strength in yarns formed from the fibers are claimed for the treatment.

THREAD STORING AND ADVANCING DEVICE FOR STRETCHING FILAMENTS OR BUNDLES OF FILAMENTS. L. Notarbartolo, G. B. di Belgiojoso, and G. Bruni (to Snia Viscosa Soc. Nazionale Industria Applicazioni Viscosa SpA). USP 2 883 733, Apr. 28, 1959. (2166)

YARN STRETCHING APPARATUS. R. Hargreaves (to Whitin Mach. Works). USP 2 884 679, May 5, 1959. (2167)

Means for preventing yarn slippage at the feed roll in order to obtain uniform yarn stretch and diameter.

Opening, picking, fiber preparation B1

FIBER FEEDING MECHANISM. J. E. Fleissner, H. Fleissner, and G. Fleissner (to Fleissner & Sohn Maschinenfabrik). BP 809 134, Feb. 18, 1959. Through BCIRA 39: 1474 (1959). (2168)

Feeding system that can be changed, by operating a lever, so that fiber can be delivered to a processing machine either by hand, by a simple conveyor, or by a beater mechanism.

Carding and combing B2

DRIVE FOR DOFFER COMB SHAFT IN CARDING MACHINE. F. Fromm (to Rollenlager-Spindelfabrik Spintex GmbH). BP 809 541, Feb. 25, 1959. Through BCIRA 39: 1658 (1959). (2169)

Mechanism for converting the rotary motion of a driving shaft into the oscillatory motion required for rocking the doffer comb shaft.

HEAD STRUCTURE FOR CARDING FLATS. J. J. Rieter & Cie AG. BP 809 630, Feb. 25, 1959. Summary in BCIRA 39: 1657 (1959). (2170)

VACUUM-OPERATED CARD STRIPPING DEVICE. F. G. James. USP 2 880 469, Apr. 7, 1959. (2171)

An auxiliary suction nozzle, for modifying existing vacuum strippers, traverses the doffer cylinder along the line where it is engaged by the doffer comb.

COMBING BEAM DRIVE. F. Fromm (to Spintex Spinnerei Maschinenbau GmbH). USP 2 882 737, Apr. 21, 1959. (2172)

The bearings for both the driving shaft and combing beam are formed by a one-piece housing to ensure a smoother and more rigid construction.

Drawing and roving B3

PIN DRAFTER STOP MOTION. G. A. Mobley (to Deering Milliken Research Corp.). USP 2 883 710, Apr. 28, 1959. (2173)

Stop motion for detecting both the breakage of either of two traveling parallel strands or enlarged cross sections in the strands.

TOP DRAFTING ROLL POSITIONING AND TENSIONING MECHANISM. R. B. Newton (to Whitin Mach. Works). USP 2 881 481, Apr. 14, 1959. (2174)

SADDLE WEIGHTING MECHANISM FOR TOP DRAFTING ROLLS. R. B. Solanas (to Estirajes Balmes SA). USP 2 884 664, May 5, 1959. (2175)

Weighting mechanism in which the saddle assembly applies weight to three top rolls by means of a spring mounted on the drafting head and a weight hook. The fourth roll is self weighted.

ANTIFRICTION TOP DRAFTING ROLL. O. W. Schlums (to Whitin Mach. Works). USP 2 884 665, May 5, 1959. (2176)

ANTIFRICTION TOP DRAFTING ROLL. O. W. Schlums (to Whitin Mach. Works). USP 2 885 247, May 5, 1959. (2177)

Spinning, winding, twisting B4

FALSE TWIST APPARATUS. G. Dubini & Cie SA. BP 809 002, Feb. 18, 1959. Through BCIRA 39: 1477 (1959). (2178)

In a false-twisting and twist-setting process, the false twisters are arranged in two parallel and staggered rows, and are driven by a belt that passes between the rows. A single heating chamber serves for all the threads.

BUILDER MOTION FOR SPINNING MACHINE. Nazionale Cogne SpA. BP 809 192, Feb. 18, 1959. Summary in BCIRA 39: 1475 (1959). (2179)

TWISTING SPINDLE. Algemene Kunstzijde Unie NV. BP 809 196, Feb. 18, 1959. Through BCIRA 39: 1476 (1959). (2180)

The spindle has a detachable cap at its upper end for centering a tube, provided with a resilient rubber ring in an annular groove so that centrifugal force during rotation of the spindle couples the expanding ring to the tube. The centering member has radial cavities reaching from the axis to the groove, in which means can move outward as the spindle rotates and push against the ring.

BELGIAN DOUBLING SYSTEM FOR TIRE CORD CORE YARNS. Dunlop Rubber Co. Ltd. BP 809 321 and 809 322, Feb. 25, 1959. Through BCIRA 39: 1661 (1959). (2181)

Tire cords in which the component singles are core yarns made by feeding continuous filaments (rayon, nylon, or Terylene) with a roving of staple fiber (cotton, rayon, or nylon) to a drafting system.

RING SPINNING MACHINE. W. Leutert (to Brevets Aero-Mecaniques SA). USP 2 880 565, Apr. 7, 1959. (2182)

The ring rails are so mounted that centering of the rings with respect to the spindles is always satisfactory regardless of the thermal expansion of the spindle rail.

TWO-FOR-ONE TWISTING SPINDLE FOR HIGH SPEED TWISTING OF FINE DENIER YARNS. O. V. Drtina. USP 2 880 567, Apr. 7, 1959. (2183)

FORMING TRANSFER TAILS IN RING TWISTING. B. Zuidema (to Am. Enka Corp.). USP 2 881 583, Apr. 14, 1959. (2184)

An auxiliary winding ring is provided for storing the leading end of yarn fed to the collecting tube of the ring twisting machine.

PHOTOELECTRIC DEVICE FOR FANCY DOUBLER FEED CONTROL. F. Müller (to Berliner Maschinenbau AG). USP 2 881 585, Apr. 14, 1959. (2185)

CENTRIFUGAL TWISTING MACHINE. V. Svaty and J. Libansky (to Mira Nar. Pod.). USP 2 881 586, Apr. 14, 1959. (2186)

The yarn is twisted in the usual two phases, e.g. during transport into the can of the centrifugal machine and during unwinding from the can, but the process is simplified by using the same bobbin for both phases.

APPARATUS FOR TWISTING FLAT RIBBONS INTO YARNS. C. C. Dorschner (to Deltox Rug Co.). USP 2 883 822, Apr. 28, 1959. (2187)

Apparatus for forming a yarn of predetermined color characteristics from colored ribbons of paper, synthetic fibers, or plastics.

SELF-ACTOR SPINNING MULE. A. Krause (to Mak Maschinenbau Kiel AG). USP 2 883 823, Apr. 28, 1959. (2188)

In a mule without headstock, quadrant, or band drives the various movements are effected by means of 3 control gears working in synchronism and driven by 1 or several motors.

FALSE TWIST SPINDLE DRIVE. A. R. Andrews and A. E. Winslow (to Standard Screw Co.). USP 2 883 824, Apr. 28, 1959. (2189)

A pair of false twist spindle tubes are so arranged that either tube may be caused to rotate in the direction opposite to that in which the other is driven.

SPINNING AND TWISTING SPINDLE. E. Reissmüller and H. Gassner (Germany). USP 2 883 825, Apr. 28, 1959. (2190)

Means for mounting the upper spindle section on the bearing mounting in such a way that lint accumulation at the joint is prevented.

Yarns B5

COVERED ELASTIC YARN. O. W. Schlums (to Whitin Mach. Works). USP 2 880 566, Apr. 7, 1959. (2191)

Apparatus for covering a tensioned elastic yarn with a tow of synthetic filaments which have been drafted or broken to staple lengths.

NYLON ROPE. R. T. Starr (to Columbian Rope Co.). USP 2 880 568, Apr. 7, 1959. (2192)

Large size nylon rope free of kinks and snarls may be produced by immersing the yarns in hot water prior to twisting and subjecting the finished rope to steam under pressure.

PLY-CABLING APPARATUS FOR TIRE CORD. R. H. Carter and C. B. Kingsbury (to North Am. Rayon Corp.). USP 2 881 584, Apr. 14, 1959. (2193)

COILING HEAD FOR YARN PACKAGES. H. Buddecke (Germany). USP 2 882 673, Apr. 21, 1959. (2194)

Mandrel for forming oblong helicoidal coils of yarn layers.

REMOVABLE SPOOL END CAP. R. Atwood and C. C. L'Allemand (to Decorated Metal Mfg. Co.). USP 2 883 124, Apr. 21, 1959. (2195)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

WINDING PACKAGES WITH PREDETERMINED TENSIONS. Vereinigte Glanzstoff Fabriken AG. BP 809 033, Feb. 18, 1959. Through BCIRA 39: 1490 (1959). (2196)

A guiding roll feeds the thread into a loop before it reaches the bobbin, and the tension is maintained in the loop by a feeler which, in response to variations in the size of the loop, transmits impulses to infinitely-variable gearing that varies the speed of the feed roller.

TENSION DEVICE FOR WINDING MACHINERY. J. A. V. White, R. T. Gully, and R. H. Hogwood (to Brit. Cellophane Ltd). BP 809 508, Feb. 25, 1959. Through BCIRA 39: 1666 (1959). (2197)

In winding under constant but light tension, a roller is interposed immediately before the winding mandrel. This roller drives one or more friction discs which drive the mandrel. This rides freely on an inclined arm so arranged that the mandrel bears against the friction disc(s) with increasing pressure under the force of gravity, that is, as the package grows.

STOP MOTION DEVICE FOR WINDING MACHINE. H. M. Miller (to Whitin Mach. Works). USP 2 881 982, Apr. 14, 1959. (2198)

Mechanism for stopping the machine upon the occurrence of a slub, knot, or other enlargement in the yarn.

DISC TYPE YARN TENSIONING DEVICE. J. Warwick (to Specialties Develop. Corp.). USP 2 881 988, Apr. 14, 1959. (2199)

The tension device is adapted to prevent the accumulation of sliver or lint between the discs.

WARP BEAM. S. A. Harris. USP 2 880 944, Apr. 7, 1959. (2200)

A threaded connection between the beam end and the beam head permits both the angular position of the head relative to the barrel to be adjusted and the barrel and head to be locked together by the thread action alone.

SLUB CATCHER. E. F. Parnell (to Pneumafil Corp.). USP 2 883 732, Apr. 28, 1959. (2201)

SIZING MACHINERY. H. Kabelitz (to Firma Gebruder Sucker GmbH). USP 2 884 893, May 5, 1959. (2202)

Squeezing roll arrangement which provides for the compression of the fibers both before and after treatment in the sizing bath, while preventing contact of the fibers with the outer atmosphere.

Weaving C2

WILTON LOOM PILE WIRE. A. Brookes (to Brintons Ltd). BP 809 021, Feb. 18, 1959. Through BCIRA 39: 1493 (1959). (2203)

The wire is such that loops of different heights are formed simultaneously in one and the same row, and that either the higher or lower loops, or both, can be cut as the wire is withdrawn.

FAST REED PROTECTOR STOP MOTION. A. Klafke (to Lindauer Dornier GmbH). BP 809 315, Feb. 18, 1959. Through BCIRA 39: 1494 (1959). (2204)

A fast reed protector motion has a tongue held in raised position by a roller riding on a fixed arcuate cam during picking. When the shuttle is in the box, the tongue is still retained in the raised position by a finger that projects into the box and detects the presence of the shuttle, thus permitting the tongue to clear the frog when the roller rides off the end of the cam.

AUTOMATIC LOOM LETOFF MOTION. L. Puskas (to Licencia Találmányokat Ertékesitó Vállalat). BP 809 565, Feb. 25, 1959. Through BCIRA 39: 1667 (1959). (2205)

The motion comprises a warp beam brake which is periodically released by a reciprocating member, and a warp tensioning device in which the load produced by a weight is transmitted to the back rest through at least one spring.

LOOM SHUTTLE SPUR. F. D. Abreu. USP 2 881 806, Apr. 14, 1959. (2206)

Shuttle spur, applicable to wooden and plastic shuttles, which prevents the entrance of the warp thread between the spur tip and shuttle body.

LOOM STOP MOTION. C. G. Moon (to Draper Corp.). USP 2 881 807, Apr. 14, 1959. (2207)

Mechanical stop motion for selectively stopping the loom in either the harness level or open shed position for the repair of defective warp or weft threads.

LOOM WEFT LOOP FORMING APPARATUS. B. B. Purdy. USP 2 882 932, Apr. 21, 1959. (2208)

The pin, employed for looping the weft along the warp edge to relieve the warp from strain as the weft is tensioned, also causes the loom to stop in the event of improper formation of the weft loops.

LOOM STOP MOTION CONTROL FOR USE WITH TRAVELING BLOWER. R. A. Littlejohn and R. M. Ingham, Jr. (to Deering Milliken Research Corp.). USP 2 884 011, Apr. 28, 1959. (2209)

Switch arrangement for stop motion which automatically disconnects the stop motion during the passage of the blower over the loom and reconnects the circuit after the passage of the blower beyond the loom.

WEFT SELECTING MECHANISM FOR GRIPPER SHUTTLE LOOMS. J. Fisher and N. P. Darash (to Warner & Swasey Co.). USP 2 884 014, Apr. 28, 1959. (2210)

Mechanism for selectively feeding various types and colors of weft yarns to the gripper shuttles to produce predetermined patterns.

LOOM TAKEUP TENSIONING ROLLER. H. Bechter (Switzerland). USP 2 884 015, Apr. 28, 1959. (2211)

Tensioning roll for stretching the fabric web in the direction of the web is composed of a support shaft upon which tubular elements, which may be interchanged according to the tension desired, are arranged.

LOOM STOP MOTION CONTROL. K. E. Sanderson and R. E. Milligan (to Draper Corp.). USP 2 884 016, Apr. 28, 1959. (2212)

Shipper latch mechanism immediately responsive to an electromechanical signal for effecting loom stoppage.

WARP STOP MOTION FOR WIRE LOOM. E. M. Jenkel (to Appleton Wire Works Corp.). USP 2 884 017, Apr. 28, 1959. (2213)

Apparatus for detecting abnormal movements of metallic warp threads and for effecting loom stoppage in response to such detection.

LOOM PICKER STICK CHECK STRAP. L. P. Plante and M. Roy (to Page Belting Co.). USP 2 884 961, May 5, 1959. (2214)

Multiple ply check strap having a stiff, flex-resistant outer ply of canvas and a flexible inner ply of leather to provide reinforcing means at the site of its guide rod receiving holes.

Knitting C3

SHEER SURGICAL STOCKING. H. Knohl (to Kendall Co.). USP 2 883 842, Apr. 28, 1959. (2215)

The hosiery is formed of yarn having an elastic core of not more than .007 in. diameter and one helical winding of relatively inelastic material.

ROTARY CYLINDER KNITTING MACHINE. D. P. Moore. USP 2 880 600, Apr. 7, 1959. (2216)

Universal machine which will knit, at selected periods, jersey or pile fabrics of varying weights.

COMBINED YARN CARRIER AND TENSION DEVICE FOR FULL-FASHIONED HOSIERY MACHINES. E. A. Feustel. USP 2 880 601, Apr. 7, 1959. (2217)

JERSEY MOCK RIB FABRIC KNITTING. F. J. Vendetti (to Scott & Williams Inc.). USP 2 881 603, Apr. 14, 1959. (2218)

Method of knitting weft knit jersey mock rib fabric sections with selvages of elastic and nonelastic yarn, in which the sections are connected by a removable draw thread, on a multiple feed circular knitting machine.

CIRCULAR HOSIERY MACHINE. G. Billi (to Fidelity Mach. Co.). USP 2 881 604, Apr. 14, 1959. (2219)

Needle and jack lifting cam control for tuck stitch production.

PATTERN CHAIN SHOGGING MECHANISM FOR HIGH SPEED WARP KNITTING MACHINES. R. F. Lanthier. USP 2 881 606, Apr. 14, 1959. (2220)

YARN FEED CONTROL MECHANISM FOR CIRCULAR KNITTING MACHINES. E. St. Pierre (to Hemphill Co.). USP 2 881 607, Apr. 14, 1959. (2221)

HOSIERY INSPECTION APPARATUS. F. Autem (to Textile Mach. Works). USP 2 883 093, Apr. 21, 1959. (2222)

Self-adjusting heel pocket expanding device which permits the distention of the heel pocket simultaneously with other portions of the stocking.

KNITTING MACHINE PATTERN MECHANISM. C. F. Miller (to Wildman Jacquard Co.). USP 2 883 841, Apr. 28, 1959. (2223)

Perforated, flexible, endless pattern strip which is easily oriented so that its reversal on the pattern drum becomes unlikely.

FLAT KNITTING MACHINE. W. M. Golaski. USP 2 884 773, May 5, 1959. (2224)

Means for producing a run or ladder effect without removing or interfering with any of the needles.

STOP MOTION TRIPPER MECHANISM FOR CIRCULAR HOSIERY MACHINES. V. T. Stack (to Hanes Hosiery Mills). USP 2 884 775, May 5, 1959. (2225)

Mechanism responsive to the failure of a yarn cutter to sever a yarn as the feed is retracted, thus preventing the yarn from wrapping about the transfer dial hub or fouling the jacks.

RELEASABLE YARN TENSION DEVICE FOR CIRCULAR HOSIERY MACHINES. H. E. Cox (to Willcraft Hosiery Mills). USP 2 884 774, May 5, 1959. (2226)

Fabrics C4

WEFTLESS TAPE FORMED OF FIBROUS FILAMENTS UNITED BY ADHESIVE. T. J. Karass. BP 809 026, Feb. 18, 1959. Through BCIRA 39: 1495 (1959). (2227)

A 10-20% solution of polyvinyl alcohol is used as agent for bonding together a parallel assembly of yarns to form a flexible, noncurling tape that does not stick under pressure.

SLITTING AND REWINDING OF WEB MATERIAL. L. Rockstrom and C. Aaron (to Cameron Mach. Co.). USP 2 872 126, Feb. 3, 1959. (2228)

In the slitting and rewinding of web material, contact pressure is controlled automatically and the roll density of a wide variety of material (light, heavy, stretchy or relatively stiff plastics, laminates, impregnated fabrics, etc.) can be accurately controlled.

PREPARATION OF RUBBERIZED FABRIC HAVING A SELF-ADHESIVE INSULATING COATING. W. Brey (to Firestone Tire & Rubber Co.). USP 2 874 752, Feb. 24, 1959. (2229)

Apparatus for the preparation and treatment of the edges of rubberized fabric material, so as to provide an improved splice when short strips of fabric material which have been cut on a predetermined bias angle are joined to form a continuous web.

TUFTING MACHINE. J. K. McCutchen. USP 2 879 728 and 2 879 729, Mar. 31, 1959. (2230)

Mechanism for producing various patterns by means of cut and uncut loops.

TUFTING MACHINE LOOPER. J. E. Smith (to James Lees & Sons Co.). USP 2 879 730, Mar. 31, 1959. (2231)

The looper is in the form of a rotating brush having resilient bristles for engaging and retaining the pile projections inserted through the fabric backing.

STAMPING DEVICE. F. Autem (to Textile Mach. Works). USP 2 880 538, Apr. 7, 1959. (2232)

Device for transferring markings by heat and pressure from a paper strip or ribbon to a fabric article, e.g. hosiery.

FORMATION OF HIGH AND LOW PILE IN CARPETS BY NEEDLING. C. H. Masland, II, C. H. Masland, III, and D. L. Masland (to C. H. Masland & Sons). USP 2 880 684, Apr. 7, 1959. (2233)

Carriers, carrying individual pile yarn ends, are manipulated by a pattern control mechanism to bring one or another of a pair of driving rolls, turning at different speeds, into driving relation with the yarn carrier.

SYNTHETIC FIBER BONDED FELT. M. T. Hoffman. USP 2 881 505, Apr. 14, 1959. (2234)

The felt is obtained by heating a batt, prepunched in a needle loom, until the fibers become tacky, and simultaneously subjecting the batt to pressure to cause bonding of the fibers.

FELTING NEEDLE. B. Weickert (to E. I. du Pont de Nemours & Co.). USP 2 882 585, Apr. 21, 1959. (2235)

The configuration of the needle prevents the tendency of the structure to become disrupted before occurrence of the desired degree of compaction.

LOOPER PATTERN CONTROL MECHANISM FOR TUFTED CARPETS. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 882 845, Apr. 21, 1959. (2236)

SEAM CONSTRUCTION FOR PAPERMAKER'S WET FELT. J. H. Draper, Jr. (to Draper Bros. Co.). USP 2 883 734, Apr. 28, 1959. (2237)

Endless woven felts are produced by forming a series of spaced loops at the terminal ends of the felt during weaving, through which a yarn may be passed to secure the loops in an intermeshed relation.

TUFTED FABRIC. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 883 735, Apr. 28, 1959. (2238)

The pile projections are formed on the side of the backing from which the needle operates, so that almost all the pile yarn is projected into the pile and very little remains in the fabric backing and the projection is wide in the base.

EXPANDED GLASS FIBER WEB FROM UNIDIRECTIONAL GLASS FIBER MAT. H. C. Fischer (to Nat. Fiber Glass Co.). USP 2 884 010, Apr. 28, 1959. (2239)

PILE JUMP CARPET. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 884 012, Apr. 28, 1959. (2240)

In addition to the normal pile projections, jump pile projections are used to form floats or diagonal pile projections.

TEXTURED CARPETS DUE TO OVERLAPS. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 884 013, Apr. 28, 1959. (2241)

Textured effects on the surface of the pile are obtained by special thread-ins using 2 or more pile warps.

HEAT RESISTANT WOVEN CLOTH. H. A. Delcellier and J. V. Weinberger (Canada). USP 2 884 018, Apr. 28, 1959. (2242)

The fabric is composed of layers of large gage weftwise fillers, e.g. Orlon or Dynel, bound in place by at least two layers of fabric crossed in a zigzag fashion and formed from a twisted yarn of glass fibers and Fortisan.

PILE CARPET. D. Karpoff (to Mohasco Inds.). USP 2 884 019, Apr. 28, 1959. (2243)

Pile carpets with a flat back are obtained by using the binder warps both to bind the filling yarns in place and to impart the stiffness ordinarily obtained by the use of stuffer warps.

PILE CARPET. D. Karpoff (to Mohasco Inds.). USP 2 884 020, Apr. 28, 1959. (2244)

The pile is made up of a combination of single and float loops and tuft legs, resulting from cutting of loops, aligned transversely across the fabric and varying in height.

FLAME AND HEAT RESISTANT FABRIC. J. D. McCluer (to Thermoid Co.). USP 2 884 343, Apr. 28, 1959. (2245)

Flexible, resilient, and smooth textured fabric consisting of an asbestos textile base impregnated with a flameproof composition consisting of an inorganic flame retardant, e.g. ammonium borate, a plasticizer, and finely divided mica.

SPONGELIKE HEAT AND SOUND INSULATING MATERIAL MADE FROM POLYAMIDE AND WOOL TEXTILE SCRAPS. L. Sauer (Germany). USP 2 884 385, Apr. 28, 1959. (2246)

TUFTED CARPET WITH MULTILEVEL CUT AND UNCUT PILE. H. F. Nowicki (to James Lees & Sons Co.). USP 2 884 680, May 5, 1959. (2247)

GLASS FIBER PAPER. D. Labino (to L. O. F. Glass Fibers Co.). USP 2 884 681, May 5, 1959. (2248)

Glass fiber paper of improved tensile strength is obtained by compressing a mat of submicron fibers of varying diameters into a paperlike sheet. The submicron fibers are obtained by subjecting glass fibers of varying diameters to a high temperature, high velocity gas blast.

CARPET LOOM JACQUARD MECHANISM. P. F. Moonan (to James Lees & Sons Co.). USP 2 884 960, May 5, 1959. (2249)

Control attachment between harness cords and jacquard hooks which permits the weaving of at least three types of floats without the use of stationary knives or modification of the jacquard mechanism.

FINISHING AND CHEMICAL PROCESSING D

HIGH SPEED MACHINE FOR WET TREATMENT OF FABRICS. A. Libbrecht and P. Libbrecht (France). BP 809 199, Feb. 18, 1959. Summary in BCIRA 39: 1539 (1959). (2250)

TREATMENT OF YARNS, FABRICS, AND PAPER WITH LIQUID TREATING AGENTS. B. C. Bond. USP 2 876 063, Mar. 3, 1959. (2251)

The material is treated in sheet form and is passed through a bath of liquor in a confined space. Oppositely directed streams of liquor are applied to the two surfaces of the material. The liquor is withdrawn from both sides at right angles to the direction of travel of the material and midway between where the material enters and leaves.

Chemical processes D1

FABRIC COATING WITH POLYVINYL CHLORIDE. B. Taylor and H. Reichard (to Fothergill & Harvey (Research & Develop.) Ltd and Vinyl Prods. Ltd). BP 809 290, Feb. 18, 1959. Through BCIRA 39: 1543 (1959). (2252)

Fabrics are coated with polyvinyl chloride after first impregnating them with a dispersion containing plasticized polyvinyl chloride, an epoxy resin, and a hardener for the resin. The impregnated fabric is dried and cured.

APPARATUS FOR THE WET HEAT TREATMENT OF FABRICS HAVING POOR ELECTRICAL CONDUCTIVITY. E. B. Bates (England). USP Reissue 24 644, May 5, 1959. Original No. 2 714 549, Aug. 2, 1955. (2253)

A method for the wet heat treatment of a running web of textile material having poor electrical conductivity consists in passing the web through a conducting liquid and then bringing the running web into direct electrical and physical contact across its whole width with electrical conducting members so as to cause the flow of an electric current through the fabric in amount sufficient to raise the temperature of the liquid in the web to its boiling point.

CHEMICALLY MODIFIED WOOL. W. G. Rose and H. P. Lundgren (to U.S. Secy. Agri.). USP 2 881 046, Apr. 7, 1959. (2254)

Wool fibers with improved shrink resistance, decreased degree of supercontraction, and increased resistance to acids and alkalis are obtained by treatment with dicarboxylic acid diazides.

COMBINED MILDEWPROOFING AND FLAMEPROOFING COMPOSITION FOR CELLULOSE. A. Giordano and W. J. Straka (to Harshaw Chem. Co.). USP 2 881 097, Apr. 7, 1959. (2255)

The composition consists essentially of a mixture of copper antimonate and a chlorinated paraffin, vinyl resin, vegetable oil, or mineral oil.

PERMONOSULFURIC ACID FOR BLEACHING MAN-MADE FIBERS. E. T. Fell (to Stevensons (Dyers) Ltd). USP 2 882 121, Apr. 14, 1959. (2256)

DIELECTRIC HEATING APPARATUS FOR FUSING PLASTIC MATERIAL TO TEXTILES. J. G. D. Manwaring. USP 2 883 505, Apr. 21, 1959. (2257)

COTTON CREASEPROOFING AGENT. W. L. Beaumont and E. E. House, Jr. (to Proctor Chem. Co.). USP 2 884 301, Apr. 28, 1959. (2258)

New aminoplasts derived from heterocyclic nitrogen compounds and aldehyde produce permanent crease resistance in cotton fabrics without causing chlorine retention.

METHOD FOR CONDITIONING WEBLIKE MATERIALS IN A CLOSED CHAMBER. F. Svavar and O. Ahlin (to Svenska Flaktfabriken AB). USP 2 884 706, May 5, 1959. (2259)

Paper, fabric, and similar materials are moistened to a moisture ratio which is in balance with an atmosphere of a predetermined relative humidity in a closed chamber by means of a gaseous medium containing vaporized liquid.

COATED LIGHTWEIGHT, HEAT-INSULATING FABRIC. M. S. Kaplan. USP 2 885 303, May 5, 1959. (2260)

A heat-insulating coating for woven fabrics consists of hollow microspheroids of glass fibers or urea formaldehyde resin and finely divided mica in a nitrocellulose, polyvinyl chloride, or vinyl chloride/vinyl acetate vehicle.

Dyeing and printing D2

DYEING POLYESTER FIBERS. Farbwerke Hoechst AG. BP 809 221, Feb. 18, 1959. Through BCIRA 39: 1541 (1959). (2261)

Materials of the Terylene type are immersed in a hot, alkaline bath containing a coupling component of the structure OH·R·CO·NH·Ph, a primary aromatic amine, and an agent that promotes the solution of the coupling component. The pH of the bath is simultaneously reduced and the amine is diazotized.

DYEING POLYAMIDE FIBERS. C. Hobday (to Geigy Co. Ltd). BP 809 258, Feb. 18, 1959. Through BCIRA 39: 1540 (1959). (2262)

Level dyeings on materials of the nylon type are obtained by applying a hot solution containing a neutral chromium complex of a dye and a C_{16}-C_{18} polyglycol ether of an alkylene diamine.

DYEING POLYACRYLONITRILE AND ITS COPOLYMERS. Badische Anilin und Soda Fabrik AG. BP 809 382, Feb. 25, 1959. Through BCIRA 39: 1690 (1959). (2263)

Fast yellow to orange shades are given by basic dyes in which a thiazole, selenazole, pyridine, pyrimidine or indolenine system is linked, through C in the heterocyclic ring, to N in the hydrogenated heterocyclic ring of an indole, carbazole, or quinoline system, by the bridge :CH-CH:.

PRINTING PASTE. A. Locher and A. Dürst (to Saul & Co.). USP 2 884 331 and 2 884 332, Apr. 28, 1959. (2264)

Aqueous printing paste consisting of viscose, an organic pigment dyestuff stable to cellulose xanthate, and a wetting agent is claimed.

DYEING POLYETHYLENE. Vereinigte Glanzstoff Fabriken AG. BP 809 495, Feb. 25, 1959. Through BCIRA 39: 1691 (1959). (2265)

Polyethylene yarns are dyed by means of conventional acetate and basic dyes dissolved in an aromatic hydrocarbon. The solution is emulsified in the dyebath with the aid of an agent of the Emulphor group (alkylphenol/ethylene oxide product).

MACHINE FOR SCREEN PRINTING STEPWISE MOVABLE CLOTH WEBS. Gebrüder Stork NV. BP 809 525, Feb. 25, 1959. (Addition to BP 718 459). Through BCIRA 39: 1692 (1959). (2266)

A transmission mechanism is fitted in the system for driving the squeegee so that its short inoperative strokes may be alternated with its longer, operative strokes in a predetermined manner.

DYEING ASSISTANT FOR MANMADE FIBERS. J. M. Mecco, A. J. Carlino, and C. L. Zimmerman (to Am. Cyanamid Co.). USP 2 881 045, Apr. 7, 1959. (2267)

An emulsion of an organic ester of an aromatic carboxylic acid, e.g. methyl ester of 3-hydroxy-2-naphthoic acid, permits rapid dyeing of hydrophobic fibers in deep shades without the use of special equipment.

DYEING POLYESTER FIBERS WITH DISPERSE DYES. J. F. Laucius and J. P. Neary (to E. I. du Pont de Nemours & Co.). USP 2 882 119, Apr. 14, 1959. (2268)

The decomposition of disperse anthraquinone dyes in nonaqueous dyebaths at elevated temperatures is prevented by the incorporation of certain strong acids, e.g. sulfuric, phosphoric, monochloroacetic, tartaric, or oxalic acid.

FAST YELLOW AND ORANGE SHADES ON SYNTHETIC FIBERS WITH THIOXANTHONES. W. Braun, O. Trauth, and E. Von Gross (to Badische Anilin & Soda-Fabrik AG). USP 2 884 300, Apr. 28, 1959. (2269)

Mechanical processes D3

ELECTROSTATIC FLOCK PRINTING. S. M. Schwartz and D. Gross (to Velveray Corp.). USP 2 881 087, Apr. 7, 1959. (2270)

In the electrostatic flock printing of fabrics, excess flock is removed by passing the flocked fabric between successive, oppositely charged electrostatic fields.

Drying, setting, conditioning D4

DRYING MATERIAL ON A BELT DRYER BY RADIATION. A. Haltmeier (to Farbenfabriken Bayer AG). USP 2 874 482, Feb. 24, 1959. (2271)

The material goes through a regulation zone for precooling or preheating before going into the drying zone. Variations in temperature resulting from the precooling or preheating are used to control the amount of radiated heat for drying.

DRYER APPARATUS FOR BOBBINS OR SPOOLS. A. F. B. Thies (Germany). USP 2 871 574, Feb. 3, 1959. (2272)

Apparatus for drying bobbins or spools has combined blower, heater, and moisture extractor.

APPARATUS FOR SQUEEZING WEBS UTILIZING ALTERNATE HARD AND SOFT ROLLS ON DIFFERENT AXES. E. Kusters (Germany). USP 2 878 778, Mar. 24, 1959. (2273)

HEAT TREATMENT FOR ABRASION RESISTANT METAL COATED GLASS FIBERS. H. B. Whitehurst (to Owens-Corning Fiberglas Corp.). USP 2 880 552, Apr. 7, 1959. (2274)

APPARATUS FOR CONVEYING NONWOVEN OR SIMILAR FABRIC IMPREGNATED WITH LIQUID BONDING MATERIAL THROUGH DRYER EQUIPMENT. R. E. Charlton, Jr., and V. L. Payne (to West Point Mfg. Co.). USP 2 882 614, Apr. 21, 1959. (2275)

TESTING AND MEASUREMENT E

Fibers E1

APPARATUS FOR GAGING FIBER CHARACTERISTICS. E. L. Byrkett and N. Emmons, III (to Sheffield Corp.). USP 2 880 609, Apr. 7, 1959. (2276)

Apparatus for automatically measuring the resistance to air flow of a predetermined weight of a fiber under a given compression.

METHOD OF AND APPARATUS FOR CLASSIFYING FIBERS. I. Gyimothy, L. Szilas, and T. Tihanyi (to Licencia Találmányokat Ertekes Itó Vállalat). BP 808 505, Feb. 4, 1959. Through BCIRA 39: 1370 (1959). (2277)

The invention relates to means for classifying cotton and other fibers that display different double refraction, in which the observation does not depend on subjective color judgment but on the photoelectric measurement of the alterations in the intensity in polarized infrared radiation. The optical arrangement is shown in diagrams.

MILL MANAGEMENT F

Plant and equipment F2

MEANS FOR CLEANING FLOORS IN TEXTILE MILLS. W. F. Denning (to Denning Co.). USP 2 879 536, Mar. 31, 1959. (2278)

Blowers for directing air under textile machinery travel along tracks mounted at the bottom of the machines which are arranged in parallel rows. Lint is blown from one row of machines to the next and finally to the wall where it is collected by a duct system for reprocessing.